

EAST AFRICA PROTECTORATE.

ANNUAL MEDICAL REPORT

FOR THE

YEAR ENDING 31ST DECEMBER, 1917.

MEDICAL DEPARTMENT,

HEAD OFFICES,

NAIROBI,

2nd December, 1918.

SIR,

I HAVE the honour to submit, for the information of His Excellency the Acting Governor and for transmission to the Right Honourable the Secretary of State, the Medical Report on the health and sanitary condition of the East Africa Protectorate for the year 1917, together with the Returns, &c., appended thereto.

2. Throughout the whole of 1917, Dr. J. A. Haran, C.M.G., officiated as Acting Principal Medical Officer during my absence on sick leave and also directly supervised for 8 months the work of the Sanitation Division during the absence of Dr. W. J. Radford on leave.

I have the honour to be,

SIR,

Your obedient servant,

A. D. MILNE,

Principal Medical Officer,

East Africa Protectorate.

The Honourable,

The Acting Chief Secretary,

Nairobi.



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I.—ADMINISTRATION.

SECTION I.—DEPARTMENTAL.

1.—ESTABLISHMENT.

The Medical Staff of the Protectorate as sanctioned for the year 1917-18 was as follows :—

ADMINISTRATIVE DIVISION.

Principal Medical Officer	...	...	...	1
Deputy Principal Medical Officer	...	...	...	1
Office Superintendent	...	...	...	1
European Clerks	...	...	...	2
3rd Grade Clerks	...	...	...	2
4th Grade Clerks	...	...	...	3
Medical Storekeeper	...	...	...	1
Issuer of Medical Stores	...	...	...	1
Messengers and Packers	...	...	...	10

MEDICAL DIVISION.

Senior Medical Officers	...	...	...	2
Medical Officers	...	...	...	23
District Surgeon	...	...	...	1
European Dispensers	...	...	...	4
Matron	...	...	...	1
Nursing Sisters	...	...	...	9
Superintendent, Lunatic Asylum	...	...	...	1
Warder, Lunatic Asylum	...	...	...	1
Matron, Lunatic Asylum	...	...	...	1
Assistant Surgeons	...	...	...	6
Sub-Assistant Surgeons	...	...	...	40
Compounders	...	...	...	15
Menial Attendants	...	...	...	(as necessary)

SANITATION DIVISION.

Principal Sanitation Officer	...	...	...	1
Medical Officers of Health	...	...	...	4
Pathologist	...	...	...	1
Nurse	...	...	...	1
Sanitary Inspectors	...	...	...	7
Assistant Surgeons	...	...	...	6
Sub-Assistant Surgeons	...	...	...	4
Chief Vaccinator	...	...	...	1
Vaccinators	...	...	...	25
European Clerk	...	...	...	1
3rd Grade Clerk	...	...	...	1
4th Grade Clerks	...	...	...	5
5th Grade Clerk	...	...	...	1
Compounders	...	...	...	3
Mechanics for Clayton Disinfectors	...	...	...	4
Menial Attendants	...	...	...	(as necessary)

2.—APPOINTMENTS.

There were no new European appointments to the fixed establishments during the year.

ADDITIONAL STAFF.

Dr. J. M. O'Connell was lent for temporary service from the West Africa Medical Staff and arrived on the 20th August, 1917.

ASSISTANT SURGEONS.

Mr. G. W. Beaumont, 12th February, 1917.

SUB-ASSISTANT SURGEONS.

Mr. C. J. Patel, 25th July, 1917.

„ Sant Ram, 14th September, 1917.

„ Wazir Chand, 3rd September, 1917.

„ Anant Ram Sharma, 6th November, 1917.

COMPOUNDERS.

Mr. P. G. Johnson, 1st June, 1917.

„ Chunilal Talsidas, 4th October, 1917.

„ Jeshtalal Chaturbuj, 15th November, 1917.

CLERKS (TEMPORARY)

Mr. E. D'Mello, 26th February, 1917.

„ C. H. Collaco, 7th September, 1917.

3.—REDUCTIONS IN STAFF.

DEATH.

Assistant Surgeon G. W. Beaumont, 31st July, 1917.

INVALIDED.

Sub-Assistant Surgeon K. B. Divatia, 1st November, 1917.

COMPLETION OF TOUR.

Sub-Assistant Surgeon Tricumlal Manganlal, 25th October, 1917.

4.—LEAVE OF ABSENCE.

Name.	Appointment.	Period.	
		Departed.	Returned.
Dr. J. L. Gilks ...	Medical Officer ...	24th January, 1917	13th December, 1917.
„ B. W. Cherrett ...	M. O. H. ...	5th March, 1917 ...	15th December, 1917.
„ J. Pugh ...	Medical Officer ..	5th March, 1917 ...	...
„ N. P. Jewell ...	„ ...	5th April, 1917 ...	25th July, 1917.
„ R. Small ...	M. O. H. ..	27th June, 1917 ...	4th August, 1917.
Mr. A. F. Dennett ...	Sanitary Inspector ...	2nd May, 1917 ...	...
„ B. E. F. Wetkin	„ ...	23rd February, 1917	...
Mrs. E. R. Barrett ...	Matron ...	15th January, 1917 ...	5th November, 1917.
Miss I. Wilson ...	Nursing Sister ...	11th January, 1917 ...	5th November, 1917.
„ R. S. Blyth ...	„ ...	11th November, 1917	...
„ I. L. Majendie...	„ ...	26th September, 1917	...
„ L. Merryweather	„ ...	12th December, 1917	...

5.—RESUMPTION OF DUTY FROM LEAVE GRANTED IN 1916.

Name.	Appointment.	Date.
Dr. W. J. Radford	P. S. O.	22nd August, 1917.
Mr. H. Ogden	Dispenser	2nd April, 1917.
„ E. E. Williams	Sanitary Inspector	22nd August, 1917.
Miss M. A. Thomlinson	Nurse, Health Office	22nd August, 1917.

6.—LEAVE.

OFFICERS ABSENT THROUGHOUT 1917.

The following Officers were absent throughout the year :—

Dr. A. D. Milne, P.M.O., sick leave.

„ T. F. Lumb, Medical Officer, seconded for military service in Europe.

Mr. T. Preston, Clerk, seconded for military service in Europe.

7.—ADDITIONAL STAFF.

The undermentioned Medical Officers of the West African Medical Service, who arrived on the 21st December, 1916, for temporary service continued to be employed throughout the year :—

Dr. H. F. Hamilton.

„ J. M. Clark.

„ P. A. Clearkin.

8.—STAFF POSTINGS THROUGHOUT THE YEAR.

THE COAST ZONE.

Dr. C. L. Chevallier, Senior Medical Officer, continued to act in this appointment throughout the year.

Dr. F. L. Henderson and Dr. J. O. Shircore continued in medical charge of the European and Native Hospitals respectively at Mombasa throughout the year.

Both these hospitals continued to be used for the reception of military sick and wounded from centres of military operations during the year.

Assistant Surgeon R. Holmes was in medical charge of Lamu throughout the year.

THE MOUNTAINOUS ZONE.

Dr. H. F. Hamilton, West African Medical Service, was in medical charge of the European Hospital, Nairobi, during the absence on leave of Dr. J. L. Gilks from January to December.

Dr. J. H. Thomson continued in medical charge of the Civil Hospital, Nairobi, and Lunatic Asylum throughout the year.

There were no changes at Nakuru and Eldoret, Dr. R. W. Spence and Dr. W. H. Heard having remained in charge of these stations respectively during the whole year.

THE KENIA AND NYANZA PROVINCES.

Dr. J. M. Clark, West African Medical Service, relieved Dr. J. Pugh, who proceeded home in January, and continued in medical charge till the end of the year.

Dr. H. R. A. Philp, in addition to his duties as District Surgeon at Nyeri, was in medical charge of the Kenia Province till relieved by Dr. J. M. O'Connell, West African Medical Service, in August. The last named officer continued in medical charge of the Province till the end of the year and Dr. Philp at Nyeri throughout the year.

THE DESERT ZONE.

Dr. G. R. H. Chell continued in medical charge of the Northern Frontier District throughout the year with headquarters at Moyale.

Dr. P. F. Nunan was stationed at Wajir during the year with a detachment of the King's African Rifles.

Dr. E. Dias was in medical charge at Kismayu from January to December.

9.—PROTECTORATE PERSONNEL ENGAGED ON MILITARY MEDICAL SERVICE.

The undermentioned members of the Protectorate Medical and Nursing Services served with the East Africa Medical Service and East Africa Nursing Service during the year :—

Dr. A. D. Milne	...	...	Lieut.-Colonel A.D.M.S. Protectorate Forces, and Officer Commanding E.A.M.S.
Dr. J. A. Haran, C.M.G.	...	...	Major, E.A.M.S., Dy.P.M.O.
Dr. W. O. Prichard	...	...	Major, E.A.M.S.
Dr. C. L. Chevallier	...	...	Captain, E.A.M.S.
Dr. F. L. Henderson	...	...	" "
Dr. J. O. Shircore	...	...	" "
Dr. C. J. Wilson	...	...	" "
Dr. N. P. Jewell	...	...	" "
Dr. A. D. J. B. Williams	...	...	Major, E.A.M.S.
Dr. J. H. Thomson	...	...	Captain, E.A.M.S.
Mr. R. Stanley	...	...	Captain and Adjutant, E.A.M.S.
Mr. J. S. Robertson	...	...	Captain, Officer in charge, Base Medical Stores.
Mr. F. Knott	...	...	Sergeant-Major, E.A.M.S.
Mr. H. Ogden	...	...	" "

EAST AFRICA NURSING SERVICE.

Miss L. Merryweather	...	...	Senior Nursing Sister.
" R. Paul, R.R.C.	...	" "	" "
" I. L. Majendie, R.R.C.	...	" "	" "

SECTION II.—EXTRA DEPARTMENTAL.

10.—REGISTRATION OF MEDICAL PRACTITIONERS AND DENTISTS ORDINANCE.

The Ordinance governing registration came into force on the 24th September, 1910, since when and up to the end of the year the following have been placed on the Register :—

Registered Medical Practitioners	...	...	...	65
Licensed Medical Practitioners	...	...	...	6
Dentists	...	...	...	5

41 of the Medical Practitioners including the Government Dental Surgeon were in Government service and 35 were private practitioners.

During the year the following was admitted to the roll :—

O'Connell, John M., L., L.M., R.C.P. Irel., L., L.M., R.C.S., Irel.

The Board convened for the purposes of the Ordinance consisted of :—

Dr. R. W. Burkitt,
 „ C. L. Chevallier,
 „ W. Owen-Prichard,
 „ W. J. Radford,
 „ J. A. Haran,

with the Principal Medical Officer as President and Registrar.

The Board held one meeting during the year.

11.—THE DRUGS AND POISONS ORDINANCE, 1909.

This Ordinance controls the licensing of chemists and druggists as well as the sale of poisons throughout the Protectorate.

15 names have been placed on the register since the introduction of the Act to the end of 1917. Of these three were by examination.

The Board appointed under the Ordinance consisted of the following :—

Mr. L. A. Howse,
 „ A. A. White,
 „ V. H. Kirkham,
 Dr. C. L. Chevallier,
 „ W. J. Radford,
 „ J. A. Haran,

with the Principal Medical Officer as President and Registrar.

The Board held one meeting during the year.

II.—PUBLIC HEALTH.

GENERAL REMARKS.

THE PROTECTORATE.

The military situation in East Africa for the year 1917, so far as it affected the Medical Department of the country, remained in almost precisely the same position as that noted in the previous year's Annual Report. The facilities at Mombasa and Nairobi for the treatment of Europeans and natives, at Kisumu for natives, and the dispensary at Voi junction, still remained at the disposal of Medical Headquarters. The East Africa Stationary Hospital originally established at Kajiado, had been transferred to Tanga. This, and the one at Voi, and the three East African Field Ambulances in the field, had become so absorbed into the general scheme of the Expeditionary Force as to have practically lost any individuality as Protectorate units beyond their names.

At the end of 1916 a commencement was made to demobilise the East African Medical Service. In the first of the new year the European Hospital, Nairobi, was reverted to its civil status; followed, at the end of October, by the European Hospital in Mombasa. The Medical Officer in charge there, however, still remained on the military list as Officer Commanding the British Base Hospital, originally instituted as an annexe of the civil hospital.

As may be imagined the work of the Protectorate was much embarrassed, in the first place, by the absence of so many of its regular staff in the field. If it was the duty of the Protectorate to assist to the utmost of its resources in prosecuting the war to a successful issue, it was obviously unfair to hamper G.H.Q. by pressing for the return of these men—whatever the civil needs of the country. Though they were a small body in comparison with the large numbers of R.A.M.C. doctors sent out to assist the East African Forces (many of whom had all to learn about life in a tropical country), they were a leaven which did know the language, did understand local conditions and the native, and were experienced in tropical diseases.

Of the East Africa Medical Service who remained in the Protectorate, it must again be pointed out that theirs was a strenuous lot—complying, with depleted staffs, with the War Office regulations, and, at the same time, fulfilling their obligations to the local Government. That the Army appreciated their efforts is generously recorded in the various despatches of the General Officers Commanding. It is satisfactory to record on the civil side, that the same keenness was manifested to overtake the many exacting calls made on them; certainly no case of avoidable inattention calling for intervention came to notice during the year. In this respect a tribute must be paid to the officials and the general public who were aware of what a short-handed and overworked staff had to undertake.

A third factor which impaired the efficiency of the staff was the fact that, with the stoppage of all leave home except on medical certificate, the effects of three, four, five and more years' continuous service was beginning to affect the physical energy and mental outlook of the men. This danger was recognised in 1916; it has since become much more acute in those still left. In consequence the Colonial Office was approached to provide reliefs. One cannot too gratefully record the promptness with which this request was met. Four officers from the West African Medical Service were transferred to this side of the African continent,

thus enabling three East African Medical Service officers to resign their commissions (further advancing the demobilisation), and one invalided, to proceed home to England. East Africa is under a debt to these officers who gave up their leave in England and volunteered for civil duty. That more in this respect could not be done in 1917 is due, one is aware, to the absorption into the Army at home of all available medical candidates. The result here is that men must be kept at their posts until they break down, are then invalided out, leaving vacancies which cannot be filled.

THE RECORD OF CIVIL WORK as shown by the returns was only some 4,000 cases less, with over 50 deaths more, than last year. The figures were :—

			Admissions.	Deaths.
1917	..	..	112,426	1,141
1916	..	..	116,522	1,093
1915	..	..	117,573	649

The great increase in deaths in the last two years may be attributed to the accumulated debilitating effects of war conditions ; the ever increasing cost of foodstuffs ; the repatriation of the native carriers ; and the abnormal weather conditions which prevailed in 1917.

The general tenour of the reports from almost all districts was that, on the whole, the public health of the country was unexpectedly good. Returned carriers were sent back in much better condition than last year. While there was no great variation in the class or character of the diseases treated, there were the usual manifestations of communicable diseases spread over the country. *Malaria*, as usual, was rife everywhere ; and but few districts escaped *dysentery* and the occurrence of sporadic cases of *small-pox*. *Cerebro-spinal Meningitis* appeared at such widely separated centres as the Nandi country, Machakos, Nairobi (where it assumed considerable dimensions), Mombasa and the Tana River. *Plague* made its appearance on the Kisii and Maragoli hills of Kavirondo, Kyambu, Nakuru and Mombasa. The desert areas suffered notably from *beri-beri*. A small epidemic of influenza was reported from Meru.

TABLE SHOWING THE SICK, INVALIDING AND DEATH RATES
AMONGST EUROPEAN OFFICIALS IN THE EAST AFRICA
PROTECTORATE.

	1915.	1916.	1917.
Total number of officials resident	1,031	993	968
Average number resident	777	820	703
Total number on sick list	567	582	427
Total number of days on sick list	6,296	6,270	3,725
Average daily number on sick list	17·24	17·13	10·20
Percentage of sick to average number resident... ..	2·22	2·09	1·45
Average number of days on sick list to each patient	11·10	10·77	8·72
Average sick time to each resident	6·10	6·31	3·84
Total number invalided	26	26	33
Percentage of invaliding to total residents	2·52	2·62	3·41
Total deaths	3	4	3
Percentage of deaths to total residents	·29	·40	·31
Percentage of deaths to average number resident	·38	·49	·42
Number of cases of sickness contracted away from residence	—	—	—

TABLE SHOWING THE SICK, INVALIDING AND DEATH RATES
AMONGST NATIVE OFFICIALS IN THE EAST AFRICA PRO-
TECTORATE.

	1915.	1916.	1917.
Total number of officials resident	1,888	1,923	2,017
Average number resident	1,379	1,628	1,617
Total number on sick list	2,639	3,791	3,343
Total number of days on sick list	18,996	12,676	25,214
Average daily number on sick list	38·34	34·63	69·07
Percentage of sick to average number resident ...	2·78	2·12	4·27
Average number of days on sick list to each patient ...	5·30	3·34	7·54
Average sick time to each resident	7·41	6·59	12·50
Total number invalided	17	22	18
Percentage of invaliding to total residents	·90	1·14	·89
Total deaths	8	6	3
Percentage of deaths to total residents... ..	·42	·31	·14
Percentage of deaths to average number resident ...	·58	·36	·18
Number of cases of sickness contracted away from residence	—	—	—

I.—THE MOUNTAINOUS ZONE.

(i). GENERAL DISEASES.

Dr. J. Thomson again drew attention to the deadly nature of *pneumonia* on the African. The chance of recovery was greatly increased if a patient was taken in hand on the first symptom showing. It has a far more rapid course among natives than among Europeans; this he attributed to the possibility of their cardiac system being less resistant to the poison. 147 cases were treated at his hospital during the year, with a death-rate of 18·2 %. Among the police force (where the earliest sign of sickness can be reported), 33 cases were treated, giving a death-rate of 6 %. Admitting that the police are a picked body of men, pneumonia as a disease cannot be said to only select the weakly. In view of the researches of the South African Laboratories on pneumo-coccal vaccine, much remains to be worked out in this country on similar lines.

Phthisis he noted as being markedly on the increase amongst Africans and Indians. Whereas in former years he had recorded his opinion that the tubercle bacillus chiefly attacked joints and glands, he now records an increasing tendency for the lung to be infected.

Diseases of the Circulatory System.—Heart disease was very prevalent, hardly any native over middle life being sound, while a large percentage of the younger people were similarly affected. As indicated above, the conclusion is forced that in the native the heart is the commonest organ to suffer; it is certainly the most usual cause in these higher altitudes for rejection of candidates for the police force. It must be remembered that with the exception of a small portion of the A-kikuyu and the A-kamba tribes, most of the cases coming up for treatment at the Nairobi and Nakuru centres are more or less de-tribalised natives drawn from all over the Protectorate and neighbouring colonies.

Of Nervous Diseases there was a puzzling affection of complete sudden deafness, not feigned, affecting Wa-Nandi, Wa-Lumbwa and Baganda. A like trouble was a sudden dumbness not unknown to the A-kamba tribe. Those attacked were mostly police recruits and military patients sent up from the front. The attacks bore a curious analogy to shell-shock, and was possibly a hysterical manifestation due to the disturbance of war.

The comparison table of the admissions and deaths for the last three years was as follows :—

	Admissions.			Deaths.		
	1917.	1916.	1915.	1917.	1916.	1915.
European Officials	269	412	384	2	2	—
Native Officials	2,288	2,478	1,322	3	8	4
European General Population	207	767	594	12	11	13.
Native General Population	4,811	3,864	3,863	637	512	332

The very satisfactory reduction in the admissions of Europeans may, in part, be accounted for by the withdrawal from these provinces of large numbers engaged elsewhere in the war. The increased numbers in the native races was what was to be expected in the continued movements of large bodies of men.

(ii). COMMUNICABLE DISEASES.

MOSQUITO OR INSECT-BORNE.

Malaria.—The number of admissions entered under this heading for the last three years was as follows :—

	Admissions.		Deaths.	
1917	5,273	.. ..	14	
1916	6,144	.. ..	7	
1915	5,352	.. ..	14	

Contrary to what might have been expected, this showed a decided drop from last year, though the rate remained far above what it was in pre-war days ; a large percentage of the cases were imported from outdistricts. Microscopic diagnosis was practically confined to Nairobi and Nakuru. Any attempt to extend the use of microscopes was put an end to by the issue to the military forces of the remaining stock of eleven instruments, and the supreme difficulty of replacing them. 1917 was a very wet year, especially the latter half of it. This, which gave the lesser incidence of malaria, was probably accounted for by the constant flooding of the breeding grounds and the washing away of the water-stages of the mosquito. So far as Nairobi was concerned, Dr. Thomson gives a chart showing the incidence of rainfall to malaria, for the two last years (*vide* appendix). Two cases of pre-natal or early infection were recorded by Assistant Surgeon D. E. Barrett. The first was that of a baby who developed a big spleen, and whose blood showed a large mononuclear increase six days after birth ; the mother, an Asiatic, had sub-tertian malaria at the time of her confinement. The other child showed sub-tertian parasites fourteen days after birth.

Blackwater fever.—A review of the three years' records show that there were in

	Admissions.		Deaths.	
1917	8	.. ..	2	
1916	17	.. ..	1	
1915	6	.. ..	1	

Of the eight cases treated one was a European who recovered.

Dengue.—Did not make its appearance this year. Last year there was one admission, and the year before 60.

Filariasis.—1917, no cases ; 1916, one case ; 1915, five cases.

INFECTIOUS OR EPIDEMIC.

Cerebro-spinal meningitis.—This infection still persisted in sufficient numbers to be an ever-present cause of anxiety. The tri-annual list gives the following figures :—

			Admissions.			Deaths.
1917	..	..	297	..	..	191
1916	..	..	72	..	..	31
1915	..	..	81	..	..	3

The Principal Sanitation Officer's report shows how little these figures represent the real state of matters.

Dysentery.—38 Europeans (none fatal) suffered from this disease, as compared with 159 cases and 6 deaths in 1916, and 105 admissions with no deaths in 1915. The total numbers were :—

			Admissions.			Deaths.
1917	..	..	1,404	..	..	97
1916	..	..	2,168	..	..	138
1915	..	..	1,647	..	..	89

Typhoid group.—Seven cases of enteric with one of para-typhoid were recorded during the year; the latter proved fatal whilst the 7 enteric recovered. Of the 7 cases, 2 were Europeans as was also the para-typhoid case, which ended fatally. This represented a considerable improvement over the previous years :—

			Cases.			Deaths.
1917	..	..	8	..	..	1
1916	..	..	34	..	..	3
1915	..	..	182	..	..	19

This amelioration can only be due to the amount of preventive inoculation that has been carried out during the last two years by various channels—the Army, before arrival in this country, and by the wider appreciation of the public of the benefits the practice confers.

Leprosy.—One case came under notice during the year.

Plague.—157 admissions were recorded with 90 deaths. Five of these, with four deaths, occurred amongst Europeans.

The Principal Sanitation Officer's report should be referred to for fuller details.

Small-pox.—99 cases with 15 deaths were recorded in the hospital statistics.

The Principal Sanitation Officer deals fully with this matter in his report.

Beri-beri.—2 cases came under treatment.

Tetanus.—One fatal case occurred.

HELMINTHIC.

The following varieties were admitted during the twelve months :—

Cestoda.	T. solium	..	..	..	..	62
	T. saginata	..	..	..	..	2
Nematoda.	A. lumbricoides	..	..	..	..	20
	T. dispar	..	..	..	..	2
	Dracunculus	..	..	..	..	2
	O. vermicularis	..	..	..	..	5

The total admissions for the three years were :—1917, 93 ; 1916, 71 ; 1915, 95.

(b) EUROPEAN OFFICIALS.

The aggregate of sickness for the past three years has been as follows :—

			In-patients.			Out-patients.
1917	..	..	275	..	..	194
1916	..	..	419	..	..	225
1915	..	..	384	..	..	194

Deaths were two—from pneumonia and, V.D.H. (mitral)—the same number as last year, 1915 being a nil year.

The most common cause of being placed on the sick list was shared equally by diseases of the digestive system and the one that is always first, malaria, 98 cases each; respiratory troubles accounted for 60; dysentery, 16; and local injuries, 39.

Invalidings on account of disabilities contracted during the year were as follows:—Asthma, 1; mental, 2; fractures, 3; malaria, 2; neurasthenia, 1; rheumatism, 1; abscess of liver, 2; eye affections, 2; urethritis, 1; debility, 1; anæmia, 1; appendicitis, 1; alcoholism, 1; total, 19. In 1916, 12 were sent out of the Protectorate, and 16 in 1915.

TABLE SHOWING THE SICK, INVALIDING AND DEATH RATES
AMONGST EUROPEAN OFFICIALS IN THE MOUNTAINOUS
ZONE.

	1915.	1916.	1917.
Total number of officials resident	730	680	691
Average number resident	518	550	507
Total number on sick list	384	419	275
Total number of days on sick list	4,542	5,213	2,618
Average daily number on sick list	12·44	14·24	7·17
Percentage of sick to average number resident... ..	2·40	2·59	1·41
Average number of days on sick list to each patient	17·82	12·44	9·52
Average sick time to each resident	6·22	7·67	3·78
Total number invalided	16	12	19
Percentage of invaliding to total residents	2·19	1·76	2·74
Total deaths	—	2	2
Percentage of deaths to total residents... ..	—	·29	·28
Percentage of deaths to average number resident	—	·36	·39
Number of cases of sickness contracted away from residence	—	—	—

(c) **NATIVE OFFICIALS.**

The numbers that came under treatment for the last three years were as follows:—

	In-patients.	Out-patients.
1917	2,308	595
1916	2,507	461
1915	1,322	907

There were 872 cases of malaria—more than a hundred less than last year—623 from respiratory diseases, nearly two hundred more than in 1916; dysentery produced 125, and local injuries 317.

Three officers died during the year, one from blackwater fever and two from pneumonia. In the two previous years the deaths were five and four.

Thirteen people were invalided, one more than last year; in 1915 nine had to be sent out of the country. The causes were:—Malaria (2); tubercle (2); anæmia (1); rheumatism (1); mental (1); debility (1); keratitis (1); diabetes (1); syphilis (1); glaucoma (1); necrosis (1).

TABLE SHOWING THE SICK, INVALIDING AND DEATH RATES
AMONGST NATIVE OFFICIALS IN THE MOUNTAINOUS ZONE.

	1915.	1916.	1917.
Total number of officials resident	1,015	1,051	1,152
Average number resident	678	822	873
Total number on sick list	1,322	2,507	2,308
Total number of days on sick list	7,730	18,110	19,687
Average daily number on sick list	21.17	49.48	53.93
Percentage of sick to average number resident ...	3.12	6.02	6.17
Average number of days on sick list to each patient ...	5.84	7.22	8.53
Average sick time to each resident	7.61	17.22	17.09
Total number invalided	9	12	13
Percentage of invaliding to total residents	.88	1.14	1.12
Total deaths	4	5	3
Percentage of deaths to total residents... ..	.39	.48	.25
Percentage of deaths to average number resident ...	.58	.60	.34
Number of cases of sickness contracted away from residence	—	—	—

(d) **GENERAL EUROPEAN POPULATION.**

The number of cases that came under review at the various hospital centres are but the slightest indication of the incidence of what the general public suffer from. Such as they were they are given as a record of work :—

	In-patients.	Out-patients.
1917	207	823
1916	767	1,151
1915	587	802

Twelve persons succumbed to the following maladies :—Plague (4) ; mitral, ascites, meningitis, tumour, emphysema, paratyphoid, one each ; malaria (2).

The principal ailments were :—Malaria, 196 ; digestive disorders, 173 ; dysentery, 22. There was one case of blackwater fever, and one of enteric.

The births and deaths registered were :—

	Births.	Deaths.
1917	159	66
1916	137	48
1915	120	51

(e) **GENERAL NATIVE POPULATION.**

Comparison table of admissions for this and the two former years :—

	In-patients.	Out-patients.
1917	4,811	34,406
1916	3,864	36,699
1915	3,683	37,742

Deaths.—In 1917, there were 637 fatal cases, giving a death-rate of 13.24 to admissions. In 1916, 512, or a death-rate of 13.25. In 1915, 322, or 9.01. This very considerable rise requires some comment. In the first place these figures include all those moribund cases which die within twenty-four hours of admission, cases which should properly be excluded if a fair estimate is to be arrived at. In the second place the causes of death must be noted as possibly affording some explanation of a high rate. Over 500 of the deaths depended on the virulent endemic, epidemic or infectious diseases which these highland regions seem to be especially afflicted with, as the following figures will show :—Cerebro-spinal meningitis (296 admissions, 191 deaths) ; dysentery (1,241—97) ; plague (153—85) ;

pneumonia (421—113) ; leaving 134 for other general diseases. The rise may also be taken as an expression of how the war has hit the native.

The other principal causes of sickness were :—Chicken-pox (867), and malaria (4,174).

The registration of births and deaths is not compulsory.

II.—THE COAST ZONE.

(i). GENERAL DISEASES.

The staff at the coast have practically no observations to offer under this heading.

The comparative table of admissions and deaths for the past three years is as follows :—

	Admissions.			Deaths.		
	1917.	1916.	1915.	1917.	1916.	1915.
European Officials	58	89	141	1	2	3
Native Officials	555	535	946	—	1	3
European General Population	51	63	73	1	3	4
Native General Population	2,544	4,144	4,240	137	179	149

(ii). COMMUNICABLE DISEASES.

MOSQUITO OR INSECT-BORNE.

Malaria.—There was a marked drop in the number of cases under treatment during the year, as is shown in the comparison table submitted below :—

				Admissions.	Deaths.
1917	..	..	..	4,748	8
1916	..	..	..	6,089	16
1915	..	..	..	7,112	14

Contributory to this excellent result were, probably, the sanitation measures adopted in and around the various military camps situated on the island, and the small rainfall, both here and at Lamu. There, it would appear that many of the cases were imported after infection on the Tana river. Lamu is heavily infected with mosquitoes, though anophelines are sparsely found. A mosquito survey of the island, undertaken during the year, showed that 85 % of the water-pots, or “ chungis,” “ birikas ” (Lamu depends on well-water), carried the water-stages of mosquitoes. The number of cases amongst the Mombasa police has been very low during the year ; this is owing to the thorough system of quinine prophylaxis (15 grains on two consecutive days each week), which has been rigidly carried out.

Filariasis.—Though the Lamu Archipelago is noted as being the home of this disease, only 5 cases were found to be infected. Last year 24 cases were found, and 5 the year before.

INFECTIOUS OR EPIDEMIC.

Cerebro-spinal Meningitis.—The contrast for the triennium given below showed a more or less normal state of matters :—

				Admissions.	Deaths
1917	..	..	..	19	10
1916	..	..	..	7	7
1915	..	..	..	27	12

Dysentery.—Thirty-seven Europeans came under treatment during 1917, almost two-thirds more than last year, otherwise there was a considerable reduction in the numbers. The annual variations were the following :—

				Admissions.	Deaths.
1917	..	..	..	312	11
1916	..	..	..	498	30
1915	..	..	..	317	39

It will be seen that the death-rate per case admission has decreased in the following proportion, 12·30 %, 6·02 %, 3·52 %.

Enteric.—The collation of the occurrence of this disease for the past three years showed to the advantage of this year :—

				Admissions.	Deaths.
1917	..	..	..	1	Nil
1916	..	..	..	10	2
1915	..	..	..	12	5

The solitary case was a European, not in Government service, who had not been inoculated.

Leprosy.—The condition of affairs noted in the 1915 Report remained the same. The voluntary settlement then in the care of the Church Missionary Society, at Mzizima, Mombasa, was taken over by the Medical Department on the temporary acquisition of that land as an Infectious Diseases Hospital for the island. A total of 19 new cases were dealt with during the year, 17 more than in 1916. In addition to these cases there were in residence at the three settlements some 65 souls.

Plague again made its appearance in the Seyidie Province, in all 38 cases were admitted, 24 of which were fatal; 1916 and 1915 were blank years.

Small-pox.—There were no cases among the Europeans on the coast, but the record of three years was :—

				Admissions.	Deaths.
1917	..	..	..	11	7
1916	..	..	..	71	23
1915	..	..	..	6	2

Tetanus.—There were again three occurrences of this disease, two of whom recovered. Last year three cases and two deaths were recorded.

HELMINTHIC.

The list of intestinal parasites diagnosed during the year was as follows :—

				In.	Out.
Cestoda	T. solium	..	..	2	2
	T. saginata	..	..	28	23
	Unclassified	..	..	7	7
Nematoda	A. lumbricoides	..	..	52	50
	A. duodenale	..	..	110	68
	O. vermicularis	..	..	1	1
	T. dispar	..	..	1	1

Assistant-Surgeon Hira Nand, working under Dr. J. O. Shircore at the Native Hospital, Mombasa, made a series of 726 fæcal examinations. Of these, 402 gave a positive result, *i.e.*, 55·37 %. Eighty-nine of these were double infections, 17 triple, and two quadruple.

(b) EUROPEAN OFFICIAL

The statistics for the past three years are the following figures :—

				In-patients.	Out-patients.
1917	..	..	..	58	85
1916	..	..	..	92	89
1915	..	..	..	141	169

The principal ailments on the coast, were:—Malaria 45; digestive troubles, 28; and dysentery 11. These three diseases showed a considerable reduction on previous years.

There was one death from V.D.H.; there were two in 1916, and three in 1915.

Invalidings were nine, as against twelve and five in former years, and were occasioned by debility, malaria and anæmia 2 each; tubercle, V.D.H., and aphasia one each.

TABLE SHOWING THE SICK, INVALIDING AND DEATH RATES AMONGST EUROPEAN OFFICIALS IN THE COAST ZONE.

	1915.	1916.	1917.
Total number of officials resident	238	247	186
Average number resident	137	148	109
Total number on sick list	141	92	58
Total number of days on sick list	1,243	678	436
Average daily number on sick list	3.40	1.85	1.19
Percentage of sick to average number resident ...	2.48	1.25	1.09
Average number of days on sick list to each patient ...	8.81	7.37	7.51
Average sick time to each resident	5.22	2.74	2.34
Total number invalided	5	12	9
Percentage of invaliding to total residents	2.10	4.86	4.84
Total deaths	3	2	1
Percentage of deaths to total residents	1.26	.81	.53
Percentage of deaths to average number resident ...	—	1.35	.91
Number of cases of sickness contracted away from residence	—	—	—

(c) **NATIVE OFFICIALS.**

The summary of in-patients and out-patients was as follows:—

	In-patients.	Out-patients.
1917	555	594
1916	541	573
1915	946	784

No fatal cases were recorded. There was one death in 1916. Four people were invalided: For malaria 3; and defective eyesight 1. The respective invalidings for the two preceding years came to six and seven.

TABLE SHOWING THE SICK, INVALIDING AND DEATH RATES AMONGST NATIVE OFFICIALS IN THE COAST ZONE.

	1915.	1916.	1917.
Total number of officials resident	689	719	691
Average number resident	463	549	517
Total number on sick list	946	541	555
Total number of days on sick list	4,430	2,740	2,481
Average daily number on sick list	12.13	7.49	6.79
Percentage of sick to average number resident ...	2.62	1.36	1.31
Average number of days on sick list to each patient ...	4.68	5.06	4.46
Average sick time to each resident	6.43	3.81	3.57
Total number invalided	7	6	4
Percentage of invaliding to total residents	1.01	.83	.58
Total deaths	3	1	—
Percentage of deaths to total residents... ..	.43	.14	—
Percentage of deaths to average number resident ...	.64	.18	—
Number of cases of sickness contracted away from residence	—	—	—

(d). EUROPEAN GENERAL POPULATION.

The statistical table for the three years was as follows:—

				In-patients.	Out-patients.
1917	..	..	..	51	236
1916	..	..	..	63	165
1915	..	..	..	73	157

One case died from rheumatic fever. There were three deaths in 1916 and four in 1915.

The chief causes of disease for which relief was sought, were :—Malaria 44 ; digestive disorders 32 ; and dysentery 22.

The one case of enteric occurred in this class.

Births.—The registered total of births which took place on the coast during the year 1917, was 16. The numbers for 1916 and 1915 were nine each year.

Deaths.—The registered total of deaths for 1917, was 14 ; for 1916, eight ; for 1915, 23.

(e). NATIVE GENERAL POPULATION.

There was a considerable drop in the number of cases that came under treatment in the year. The comparative table of the last three years was as follows:—

				In-patients.	Out-patients.
1917	..	..	..	2,544	17,877
1916	..	..	..	4,144	23,355
1915	..	..	..	4,240	22,075

In 1917 there were 137 deaths ; in 1916, 179 ; in 1915, 149. This year the deaths were due to plague (24) ; pneumonia (26) ; tuberculosis (15) ; dysentery (11) ; malaria (8) ; cerebro-spinal meningitis (10). The majority of the ailments were malaria (4,300) ; diseases of the alimentary tract (3,372) ; local injuries (3,630) ; parasitic affections (339) ; tuberculosis (53).

III.—THE KENIA AND NYANZA PROVINCES.**(a). GENERAL REMARKS.**

It may not be unfitting at the present juncture to offer some observations on what effect the war has had on the native for the last four years ; and such come more appropriately in this section, as it was from these two provinces that the vast majority of the military labour was drawn. An approximate estimate up to the end of 1917 was that some 187,000 able-bodied young males were withdrawn from the seclusion of their villages for military service in the German East and Portuguese colonies. A further reason was that, arising out of “The Compulsory Military Service Ordinance, 1917,” for the first time in the history of the Protectorate a systematic medical examination of every male capable of carrying a load was carried out in a portion of the Kenia Province. It is thus possible to put forward some definite information as to the condition of what was found in the people in their own homes, more pertinent than what is gathered at every hospital and dispensary in the country.

The examination was conducted by Dr. H. R. Philp, of the Church of Scotland Mission, District Surgeon, Nyeri, and his staff. The districts examined embraced those of Mathira, Ndia, Nyeri and Cis-Tana. The results revealed an appalling amount of physical incapacity for work in the native populations, which was due, to a very large extent, to the almost universal prevalence of yaws. The presence of a large number of cripples in the districts was almost entirely due to the tertiary manifestations of this disease.

Heart Disease was surprisingly absent in the higher altitudes, though common in the areas some 2,000 feet lower. Associated with this, and depending on the same class of country, was *rheumatic fever*.

A large number of carriers were repatriated during the year, being medically examined on being paid off. A certain proportion of these developed malaria, dysentery and other diseases after return. To what extent they suffer it is impossible to say, as they do not report sick. The care of these returned carriers was less onerous on the Protectorate staff at Kisumu, as that town possessed a large and efficiently managed carrier camp and hospital.

The effects of the irruption of war into the centuries-old manners and customs of the natives, and on the English colonising ideas of peaceful permeation of Western civilisation, are bound to have far-reaching results. What these may be we cannot as yet foresee. At any rate they may be summed up under two headings, Educational and Physical—both intimately reacting together.

Under educational results may be grouped the mental improvement from discipline; personal and camp hygiene; regular and suitable food; the need for clothing; geographical enlargement of the mind through residence in foreign countries; and contact with unknown peoples. These are valuable—and up to a point—real assets in the development of a new country.

The physical effects of war conditions more nearly concern this report, and are reflected in the various observations on the morbid causes affecting the native. While admitting the material benefits to health accruing to the bringing of individual bodies of men under complete military control, there is no doubt that the consequence of the military operations in these native reserves can only be likened to those produced by a disastrous epidemic not of a temporary character. The medical arrangements for the porters were not, in 1914, what has since been evolved in organisation, routine administration and equipment, as a result of experience. It was in the beginning of 1916 that this Department transferred to the care of Headquarters the charge of the native carriers, handing over three medical officers—the maximum effort the resources of the East African Medical Service permitted—which has since blossomed out into a special branch of medical activities; with an A.D.M.S. Carriers, and a staff of 110 doctors. It was inevitable that until this result was achieved what should have been done fell far short of what ought to have been safeguarded from the first. The fruit of all this has been the past mortality—what the actual figures are will not be known until the account of the campaign comes to be written.

It is indubitable that these men return to further scatter throughout the country the seeds of dysentery, tropical relapsing fevers, and other protozoal diseases, bacillary diseases, helminthic affections, infectious granulomata, skin diseases; and the less regarded mumps, chicken-pox, measles and influenza. The spread of malaria alone is a big subject. Hitherto the appearance of the *plasmodium vivax*, and the *plasmodium malarie* under the microscope has been noted, the latter as a rarity, the first mentioned as uncommon; now they are making their appearance in the bacteriological laboratory to a much greater extent. The infection, of course, came from the large bodies of Indian troops and followers that roamed the country side or sat in fixed camps.

That all these dangers have been fully realised by the Administration is shown by the sanction for the inclusion in the 1918-19 estimates of eight new medical officers and staff for the Sanitation division, three of them with travelling laboratories for this work in the native reserves. It was a great pity that the war demands at home entirely prevented any chance of these appointments being filled. The only local resources on which the country could fall back, in consequence, was the possibility of utilising the medical side of the various missionary enterprises established in the different areas. A small sum of money was sanctioned for this purpose; but the terms whereby Government can control the operations, and the native benefit, has yet to be worked out. The scheme is a large one, will have far-reaching effects, and is a new departure.

(i). GENERAL DISEASES.

There was the usual tale of respiratory, intestinal and skin troubles predominating.

The comparative table of the admissions and deaths for the two provinces was as follows :—

	Admissions.			Deaths.		
	1917.	1916.	1915.	1917.	1916.	1915.
European Officials	54	61	31	Nil	Nil	Nil
Native Officials	439	288	271	Nil	Nil	Nil
European General Population	67	58	32	2	1	1
Native General Population	3,414	3,600	2,402	297	361	125

In spite of the increased number of admissions amongst the native officials, their general health was good. Owing to the failure of the small rains at the close of the year the Kenia natives were faced with the outlook of famine.

(ii). COMMUNICABLE DISEASES.

MOSQUITO OR INSECT-BORNE.

Malaria.—The upward trend of the incidence of malaria in both provinces still continued. Kisumu is notoriously infected with anophelines, despite the real improvements effected in the town. Two varieties were noted, the subtertian and the benign tertian. For the three years the numbers were :—

	Admissions.	Deaths.
1917	5,477	12
1916	5,304	4
1915	4,687	3

Seventy Europeans came under treatment. Last year the number was 71.

Blackwater fever.—Two cases occurred, one a native official, who recovered, the other a European, who died. One and three are the figures for previous years.

Filariasis.—Sufferers from this affliction were noticed at Mumias, but none came under treatment. Last year four cases came under notice.

INFECTIOUS OR EPIDEMIC.

Cerebro-spinal Meningitis.—This was rampant in the Nyanza province.

	Admissions.	Deaths.
1917	128	92
1916	19	14
1915	21	3

Dysentery.—Six cases occurred amongst Europeans, including one of *Lambia intestinalis*, with an enormous number of cysts.

	Admissions.	Deaths.
1917	569	47
1916	804	26
1915	651	39

The improvement over last year's figures (in this and other infectious troubles) were undeniably aided by the detention in, and proper treatment at, the carrier hospitals, of natives prior to discharge.

Enteric.—No case since 1915.

Leprosy.—There is no special segregation centre for this in the Nyanza area. Five cases in all came under review. In 1916 three cases were treated.

Plague.—Its incidence in this and the two former years was as follows :—

				Admissions.	Deaths.
1917	Europeans	..	..	—	—
	Natives	..	..	6	3
1916	Europeans	..	..	1	1
	Natives	..	..	33	18
1915	Europeans	..	..	—	—
	Natives	..	..	33	14

Fuller details are contained in the report by the Principal Sanitation Officer.

Small-pox.—The following table gives the figures for the past three years :—

				Cases.	Deaths.
1917	..	..	..	55	19
1916	..	..	..	630	212
1915	..	..	..	24	2

Six of these cases (one death) came from Kenia Province. Fuller particulars will be found in the Principal Sanitation Officer's report.

Venereal Diseases.—The figures for the past three years were :—

				Syphilis Cases.
1917	..	..	..	317
1916	..	..	..	292
1915	..	..	..	312
				Gonorrhœa Cases.
1917	..	..	..	179
1916	..	..	..	220
1915	..	..	..	197

Tetanus.—Two cases, one less than last year. One death.

Yaws.—The prevalence of this in the Kenia Province has been already commented on. The numbers recorded at the Nyeri dispensary do not include what Dr. Philp noted in his medical inspection of his districts.

				Admissions.
1917	..	..	..	262
1916	..	..	..	146
1915	..	..	..	126

Dr. Philp draws attention to the miraculous efficacy of *Galyl* in stamping out this disease. So much have the natives recognised its curative value, that they gladly pay Rs. 10 for a dose. He considers that a systematic treatment of the inhabitants for this disease alone would make an enormous difference to the labour market.

HELMINTHIC.

During the year the following cases were admitted :—

Cestoda	T. solium	..	..	..	..	8
	T. saginata	..	..	..	..	5
Nematoda	A. lumbricoides	..	..	..	..	571
	O. vermicularis	..	..	..	..	2

(b) EUROPEAN OFFICIALS.

The statistics for the past three years were :—

				In-patients.	Out-patients.
1917	..	..	..	57	62
1916	..	..	..	61	87
1915	..	..	..	57	58

Malaria and *pyorrhœa alveolaris* were responsible for the more notable admissions. Dr. Jewell deprecates the recourse to the use of artificial stimulation—very hard to resist—in those who are run down by overwork and overdue leave. Only one officer suffered from malaria at Fort Hall.

There were no deaths, while the invalidings were four, two more than in 1916 and 1915, from the following causes, malaria two, defective eyesight and anæmia, one each.

TABLE SHOWING THE SICK, INVALIDING AND DEATH RATES
AMONGST EUROPEAN OFFICIALS IN THE KENIA AND
NYANZA PROVINCES.

	1915.	1916.	1917.
Total number of officials resident	148	141	119
Average number resident	109	104	76
Total number on sick list	31	61	57
Total number of days on sick list	296	316	462
Average daily number on sick list	·81	·86	1·26
Percentage of sick to average number resident ...	·74	·82	1·67
Average number of days on sick list to each patient ...	9·55	5·18	8·10
Average sick time to each resident	2·00	2·24	3·88
Total number invalided	2	2	4
Percentage of invaliding to total residents	1·35	1·42	3·36
Total deaths	—	—	—
Percentage of deaths to total residents... ..	—	—	—
Percentage of deaths to average number resident ...	—	—	—
Number of cases of sickness contracted away from residence	—	—	—

(c) **NATIVE OFFICIALS.**

There were in

	In-patients.	Out-patients.
1917	439	251
1916	290	138
1915	271	156

The mortality amongst these for the last three years has been nil.

One was invalided—for tubercle. Four men were invalided in 1916 and two in 1915.

Malaria (367), respiratory diseases (58), dysentery (10) and injuries (37) accounted for the main admissions.

TABLE SHOWING THE SICK, INVALIDING AND DEATH RATES
AMONGST NATIVE OFFICIALS IN THE KENIA AND NYANZA
PROVINCES.

	1915.	1916.	1917.
Total number of officials resident	275	293	288
Average number resident	198	215	201
Total number on sick list	271	290	445
Total number of days on sick list	1,680	1,635	2,800
Average daily number on sick list	4·60	4·47	7·67
Percentage of sick to average number resident ...	2·32	2·08	3·81
Average number of days on sick list to each patient ...	6·19	5·64	6·31
Average sick time to each resident	6·10	5·58	9·72
Total number invalided	1	4	1
Percentage of invaliding to total residents	·36	1·36	·34
Total deaths	—	—	—
Percentage of deaths to total residents... ..	—	—	—
Percentage of deaths to average number resident ...	—	—	—
Number of cases of sickness contracted away from residence	—	—	—

(d) GENERAL EUROPEAN POPULATION.

There came forward for medical relief the following :—

				In-patients.	Out-patients.
1917	..	..	..	67	116
1916	..	..	..	58	36
1915	..	..	..	32	79

Two deaths occurred from malaria and heart affection. The deaths registered were seven and births four.

(e) GENERAL NATIVE POPULATION.

The numbers under this heading for the three former years were :—

				In-patients.	Out-patients.
1917	..	..	..	3,414	26,413
1916	..	..	..	3,600	28,681
1915	..	..	..	2,402	31,480

Deaths were 297, as compared with 361 in 1916 ; and 125 in the year before. The causes recorded were cerebro-spinal meningitis (92) ; dysentery (47) ; pneumonia (46) ; and small-pox (19).

The greater majority of the ailments comprised cerebro-spinal meningitis (127) ; dysentery (553) ; malaria (5,020) ; pneumonia (152) ; injuries (8,569).

Registration of births and deaths not compulsory.

IV.—THE DESERT ZONE.**(a.) GENERAL REMARKS.**

From the vast stretches of desert which have to be traversed, the scantiness of population, and the paucity of staff whose duties continually necessitate long absences from their stations, the returns from these frontier stations were unavoidably incomplete and broken. The political vicissitudes in these areas during the year rendered necessary various military operations by the King's African Rifles, which upset the usual balance for the year. For one thing the three civil medical officers were very largely employed on purely military duties ; for another, never has Jubaland been so well doctored with four or five R.A.M.C. medical officers brought into that zone, whose returns are, of course, not available for this report.

As an example of the difficulty of relying on the statistics submitted, the list of the 400 in and 400 out-patients collated by Dr. G. R. Chell in the N.F.D., was arrived at by his returns from three different stations, made up as follows :—Gurreh, from January to March ; Marinan, from April to July ; Moyale, from August to November.

	Admissions.			Deaths.		
	1917.	1916.	1915.	1917.	1916.	1915.
European Officials	37	8	11	—	—	—
Native Officials	35	36	100	—	—	1
European General Population	1	—	1	—	—	—
Native General Population	2,056	1,082	877	50	16	15

1.—GENERAL DISEASES.

Anæmia and the debilitating effects of the climate were noted as specially predominating.

A small attack of scurvy broke out in the Kismayu prison. The premonitory symptoms before the gums become affected, which Dr. E. Diaz considers almost pathognomonic of the disease, were, bone pain in one leg, ultimately preventing locomotion; then pains and hardness in the affected calf muscles of the affected leg. He advances the theory that these pains are caused by a hæmorrhage in the bone which subsequently influences the muscle.

Ear disease, skin, bronchitis and local injuries were all common.

The recommendation in last year's report that officers serving in these regions should be provided with lined tents has not been given effect to.

(ii.) COMMUNICABLE DISEASES.

MOSQUITO OR INSECT-BORNE.

Malaria.—An increase of some 600 cases over last year can be accounted for by the increased movements of troops, and the high floods on the rivers. The figures were :—

				Admissions.	Deaths.
1917	..	..	..	2,395	4
1916	..	..	..	1,548	5
1915	..	..	..	1,666	4

Blackwater Fever.—One case occurred in a K.A.R. officer who had recently arrived at Kismayu from campaigning in German East Africa. Recovery ensued.

INFECTIOUS OR EPIDEMIC.

Beri-beri.—This again showed a notable increase, and with scurvy—the two great diseases depending on food deficiency—has been the scourge of Jubaland. The archives in the office show that the subjoined list of outbreaks have taken place in the past :—

Year.				Admissions.	Deaths.
1906	..	..	..	6	4
1907	..	..	..	—	—
1908	..	..	..	9	3
1909	..	..	..	5	—
1910	..	..	..	32	1
1911	..	..	..	8	—
1912	..	..	..	114	41
1913	..	..	..	60	2
1914	..	..	..	93	2
1915	..	..	..	50	1
1916	..	..	..	24	—
1917	..	..	..	84	19

Though repeated recommendations have been put up as to what measures should be undertaken to control these outbreaks, nothing has been done from year to year. The two main difficulties in the way, were (a), the impossibility of provisioning Kismayu with a neuritis preventing dietary; and this depends on (b), the lack of a regular sea transport service. Since the old Government despatch boat, "Juba" was given up, the port has depended on the chance sailings of steamers and dhows, which the shipping shortage of the war has very gravely accentuated.

The two essential needs are, therefore, the placing on the coast of a Government coasting steamer, with regular sailings, by which fresh and appropriate supplies of food, and officers' stores can be depended on to arrive. At present men are repeatedly called on to subsist on condemned stores, or starve. The other

suggestion, one that Dr. Haran has vigorously insisted on for a number of years, is the making use of local resources by the establishment of Government "shambas" in connection with the settled Government stations of the Province. A supply of grain, pulses, green undried vegetables and fruit will effectually kill scurvy, and cannot but be of the greatest benefit in the prevention of beri-beri. Probably no part of East Africa is so advantageously situated for an irrigation farm as on the Juba river.

On the 21st July a party of some 300 convicts, with the necessary escorts, from the Nairobi and Mombasa gaols arrived at Kismayu to commence operations for the construction of the road between Kismayu and Serenli under the military authorities.

The prisoners were provided with tents and moved forward as the construction of the road progressed.

In October a gang of some 600 prisoners of war joined in the work.

The medical facilities were lacking and insufficient to commence with, but later two medical officers and two sub-assistant-surgeons were provided by the military and four sub-assistant-surgeons were cabled for to India and arrived early in 1918.

Cerebro-spinal Meningitis.—Five cases were recorded at Kismayu, with one death.

Dysentery.—The three years' index of cases in these regions were :—

				Admissions.	Deaths.
1917	..	..	..	339	5
1916	..	..	..	90	3
1915	..	..	..	107	1

The jump in numbers would be accounted for by the unusual movements of soldiers. Three Europeans suffered from the disease, but recovered.

Leprosy, Tetanus and Small-pox.—Nil.

Scurvy.—Five cases, one death. Two cases in 1916, and 39 in 1915 with no deaths recorded.

HELMINTHIC.

Cestoda	T. solium	..	..	..	..	23
Nematoda	A. duodenale	..	..	..	..	20
	A. lumbricoides	..	..	..	..	63
	O. vermicularis	..	..	..	..	9

a total of 115, as against 133 in 1916, and 131 in 1915.

Insects, fleas, chigoes and bugs were common in the desert bordering the Abyssinian frontier, right down to the coast.

(b) EUROPEAN OFFICIALS.

The number of cases in these districts amounted to :—

				In-patients.	Out-patients.
1917	..	..	..	37	77
1916	..	..	..	8	48
1915	..	..	..	11	20

There were no deaths. One individual was invalided for malaria.

TABLE SHOWING THE SICKNESS, INVALIDING AND DEATH RATES AMONGST EUROPEAN OFFICIALS IN THE DESERT ZONE.

	1915.	1916.	1917.
Total number of officials resident	27	27	17
Average number resident	13	18	11
Total number on sick list	11	8	37
Total number of days on sick list	215	63	209
Average daily number on sick list	·59	·17	·57
Percentage of sick to average number resident ...	4·53	·94	5·18
Average number of days on sick list to each patient ...	19·54	7·87	5·64
Average sick time to each resident	7·96	2·33	11·94
Total number invalided	3	—	1
Percentage of invaliding to total residents	11·11	—	5·88
Total deaths	—	—	—
Percentage of deaths to total residents	—	—	—
Percentage of deaths to average number resident ...	—	—	—
Number of cases of sickness contracted away from residence	—	—	—

(c) **NATIVE OFFICIALS.**

	In-patients.	Out-patients.
1917	35	108
1916	36	87
1915	100	954

No deaths nor invalidings took place, though one was transferred to the Nairobi Lunatic Asylum.

The ailments mainly treated were malaria (39), digestive troubles (32) and dysentery (6).

TABLE SHOWING THE SICK, INVALIDING AND DEATH RATES AMONGST NATIVE OFFICIALS IN THE DESERT ZONE.

	1915.	1916.	1917.
Total number of officials resident	50	50	31
Average number resident	40	42	26
Total number on sick list	100	36	35
Total number of days on sick list	156	191	246
Average daily number on sick list	·42	·52	·67
Percentage of sick to average number resident ...	1·05	1·24	2·57
Average number of days on sick list to each patient ...	1·56	5·30	7·02
Average sick time to each resident	3·12	3·82	7·93
Total number invalided	—	—	—
Percentage of invaliding to total residents	—	—	—
Total deaths	1	—	—
Percentage of deaths to total residents	2·00	—	—
Percentage of deaths to average number resident ...	2·50	—	—
Number of cases of sickness contracted away from residence	—	—	—

(d) GENERAL EUROPEAN POPULATION.

One patient was treated in quarters, while three received out-patient relief.
No births nor deaths were registered.

(e) GENERAL NATIVE POPULATION.

				In-patients.	Out-patients.
1917	..	..	..	2,056	8,650
1916	..	..	..	1,082	6,815
1915	..	..	..	877	6,822

The deaths for the three years were :—1917, 50 ; 1916, 16 ; 1915, 15 ; and this year were occasioned by beri-beri (19) ; dysentery (5) ; pneumonia (4) ; respiratory disease (4) and malaria (4).

Registration of births and deaths is not compulsory nor practicable.

III.—SANITATION.

REPORT BY DR. W. J. RADFORD, PRINCIPAL SANITATION
OFFICER, E.A.P.

(i.) ADMINISTRATION.

1. The sanctioned personnel of the Sanitation Division at the commencement of the year 1917 was as follows :—

- 1 Principal Sanitation Officer.
- 3 Medical Officers of Health.
- 1 Nurse.
- 7 Sanitary Inspectors (one with military).
- 6 Assistant Surgeons, two employed with military and four vacancies not filled.
- 4 Sub-Assistant Surgeons.
- 1 Chief Vaccinator.
- 3 Compounders.
- 7 Clerks.

2. Appointments during the year :—

- 1 Sub-Assistant Surgeon.
- 1 Compounder.
- 2 Clerks.

3. Reductions during the year :—
Nil.

4. Leave during the year :—

- 2 Medical Officers of Health.
- 2 Sanitary Inspectors.

5. Resumption of duty from leave :—

- Dr. W. J. Radford, Principal Sanitation Officer.
- Mr. E. E. Williams, Sanitary Inspector.
- Nurse Miss M. A. Thomlinson.

(ii.) LEGISLATION DURING 1917 AFFECTING THE MEDICAL DEPARTMENT.

Under Infectious Disease Ordinance 1903.

The following townships were declared infected areas :—

Kacheliba (*Small-pox*), Kyambu and Mombasa (*Plague*).

Under Townships Ordinance 1903.

Various rules were made applicable in the following townships :—

Kisumu, Nairobi, Mombasa, Kisii, Lamu, Malindi, Voi, Rabai, Gazi, Kyambu, Dagoretti, Machakos, Kitui, Fort Hall, Nyeri, Embu, Chucka, Meru, Naivasha, Nakuru, Ravine, Eldoret and Mumias.

An ordinance to amend the Law relating to Infectious Diseases intituled “ The Infectious Diseases Amendment Ordinance, 1917.”

(iii.) PREVENTIVE MEASURES.
MOSQUITO AND INSECT-BORNE DISEASES.
MALARIA.

MALARIA, RECORDED CASES AND DEATHS.

	Year.	Cases.	Deaths.
	1913	15,656	81
	1914	15,096	119
	1915	18,175	283
	1916	18,238	206
	1917	17,968	305

Anti-malarial measures were chiefly prosecuted at Mombasa, Nairobi and Kisumu.

In Nairobi 2,691 mosquito breeding places were discovered, the percentage of anopheles to the total number of samples collected was 6·6. In Mombasa 1,925 mosquito breeding places were discovered.

Considerable activity has been maintained in clearing drains, filling in excavations and oiling in the principal towns in the country.

BLACKWATER FEVER.

Eighteen cases with five deaths were reported as occurring among the civil population.

PLAGUE.

MOMBASA.—This disease reappeared in Mombasa on 25th April, 1917, dead rats were reported at the Custom House a day or so prior to the observance of the first case ; but on the day in question plague infected rats were found, and a case of human plague detected in a house near the Fish Market near by.

Nothing further transpired until 19th May, when further cases were discovered near this focus, and from then it appeared at intervals in various localities.

101 cases and 88 deaths were recorded, of these 84 with 78 deaths occurred among the uninoculated and 17 cases and 10 deaths among those who have received prophylactic protection.

NAIROBI.—In Nairobi the case incidence was somewhat higher, viz. :—182 cases with 152 deaths. The majority of the cases occurred within the township, and the remainder in the vicinity and can be regarded as “Nairobi” incidence.

The disease originated in the Indian Bazaar, spreading rapidly from there to other quarters of the town, and to the native villages on its perimeter.

One European in the township and four others outside it were stricken by the disease.

Race incidence in this local outbreak was as follows :—

Type of Plague.	Europeans.		Eurasians.		Asiatics.		Africans.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Bubonic	5	4	—	—	19	13	58	38
Pneumonic	—	—	1	1	6	5	76	74
Septicæmic	—	—	5	5	—	—	12	12
TOTAL	5	4	6	6	25	18	146	124

The total number of inoculations against plague were 28,471, as against 7,319 undertaken in 1916.

KISUMU.—At Kisumu the case incidence compares favourably with previous years, only six cases, all terminating fatally, were recorded ; this was all the more satisfactory as the disease was reported in Maseno, South Tiriki, South Maragoli, Kibigori, Gem and Sakwa, districts in close communication with the township, 96 cases coming under observation at various dates, all these terminated fatally.

Plague also came under observation in the Kavirondo, Kyambu, Kericho, Fort Hall and Nyeri Districts, and at Nakuru.

The total number of observed cases reported during the year was as follows :—

				Cases.	Deaths.
Nairobi	...	...	...	182	152
Kisumu	...	...	...	6	6
Mombasa	...	...	...	101	88
Kavirondo	...	...	...	96	96
Kyambu District	...	...	...	46	37
Nakuru District	...	...	...	6	6
Kericho	...	...	...	11	7
Fort Hall	...	...	...	3	2
Nyeri...	...	...	...	4	4
Total ...				455	398

Table showing the occurrence of plague in East Africa.

This table shows the number of observed cases only, but does not give any clear indication of the extent and distribution of the epidemics that have appeared from time to time in various localities and districts.

TABLE SHOWING THE OCCURRENCE OF PLAGUE IN EAST AFRICA.
OBSERVED CASES.

Year.			Europeans.		Other Nationalities.		Remarks.
			Cases.	Deaths.	Cases.	Deaths.	
1902	...	...	—	—	65	21	* Epidemic with high mortality. No reliable figures. (Teita Hills.)
1903	...	..	—	—	—	—	
1904	...	...	—	—	4	4	
1905	...	...	—	—	28	26	
1906	...	...	—	—	37*	36	
1907	...	...	—	—	—	—	
1908	...	...	—	—	79	59	
1909	...	...	1	—	28†	26	† Epidemic with high mortality. No reliable figures. (Marigoli.)
1910	...	.	—	—	64	43	
1911	...	...	1	1	63	50	
1912	...	...	1	1	115	101	
1913	...	...	2	1	272	236	
1914	...	...	1	—	48	42	
1915	...	...	—	—	34	30	
1916	...	...	3	3	349	288	
1917	...	...	5	4	455	398	

PREVENTIVE MEASURES.
RAT DESTRUCTION.

1914		1915.		1916.		1917.	
Number caught.	Number infected.	Number caught.	Number infected.	Number caught.	Number infected.	Number caught.	Number infected.
27,967	53	35,335	8	21,503	42	20,776	37

PROPHYLACTIC INOCULATION (HAEFKIN).

	1914.	1915.	1916.	1917.
	31,002	6,878	18,273	100,214

The figures available this year are of interest, they represent the "voluntary" inoculations that have been performed in various localities. Persons were advised by circular and other means to present themselves for inoculation before the "Plague Season" commenced. The measure appears to be popular among Indians and Africans. The value of inoculation in reducing the case mortality is shown in the following returns supplied by the Medical Officer of Health, Mombasa.

Uninoculated.			Inoculated.		
Cases.	Deaths.	Case Mortality, per cent.	Cases.	Deaths.	Case Mortality, per cent.
84	78	92.845	17	10	58.8

and in Nairobi only 29 cases out of a total of 182 appeared among the inoculated community, of these 26 were pneumonic cases, all proving fatal, the rest, three, bubonic, recovered. The 26 cases mentioned were Somalis, most of whom were inoculated only three to nine days before the onset of the disease.

A review of all available information suggests that plague is gaining a greater hold in the country, and is involving fresh areas year by year.

To deal with endemic plague in the huge infected areas of wild Africa cannot at present be considered a business proposition; and little more can be accomplished than the adoption of ordinary routine measures in the chief towns; but the establishment of a quarantine station at the Port (Mombasa) capable of dealing with all shipping from infected ports, and cargo both export when necessary and more particularly import, and with the personal kit, baggage and persons of the immigrants would be an added defence to the country.

SMALL-POX.

The epidemic that was observed near the Uganda Border in 1915 invaded an extensive part of this country in 1916 and 1917; though the observed case incidence fell during the latter period. But there is evidence to show there is a recrudescence of the disease in districts in the Kenia Province and in Nairboi.

The following table shows the number of vaccinations performed in the country, with the number of small-pox cases in the last four years.

	1914.	1915.	1916.	1917.
Cases of small-pox	8	38	2,513	1,520
Vaccinations	123,245	162,184	977,055	297,303

VACCINATION.

The conditions of this country do not allow of more than a small proportion being seen again to determine whether the operation has been successful or not.

STATEMENT SHOWING THE PLACES AND NUMBER OF VACCINATIONS PERFORMED AT EACH DURING THE YEAR 1917.

STATIONS.	VACCINATIONS.			
	Number.	Failed.	Perfect.	Unknown.
Mombasa	3,920	86	139	3,695
Lamu	3,961	—	—	3,961
Malindi	2,441	272	634	1,535
Machakos	37,366	—	—	37,366
Nairobi Prison	1,077	94	369	614
Nairobi	5,656	—	—	5,656
Kyambu	1,242	—	—	1,242
Makindu	50	6	40	4
Kitui	7,450	—	—	7,450
Nakuru	1,012	362	410	240
Naivasha	262	1	10	251
Eldama Ravine	2,223	—	11	2,212
Kabarnet	61	12	31	18
Kacheliba	1,518	533	768	217
N. Turkana	60	15	43	2
Fort Hall	33,044	—	—	33,044
Nyeri	21,305	—	—	21,305
Embu	4,651	—	—	4,651
Meru	22,918	—	—	22,918
Kisumu	12,348	—	—	12,348
Mumias	95,456	—	—	95,456
Kericho	36,759	5	12	36,742
Nandi	2,523	—	—	2,523
TOTAL	297,303	1,386	2,467	293,450

ENTERIC.

Only eight cases with one death were reported during the year; and the number of voluntary protective inoculations performed in the country was three.

CEREBRO-SPINAL MENINGITIS.

A considerable increase in the number of observed cases claims attention.

The disease has been reported from twelve districts extending from the coast to the Victoria Nyanza.

The following table of observed cases only gives some indication of the extent and distribution of the disease during the last five years :—

1913.		1914.		1915.		1916.		1917.	
Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Pandemic	1,128	225	103	170	105	128	82	796	615

CHICKEN-POX.

1,054 cases with three deaths were notified as compared with 411 cases and one death in 1916, and 429 cases with no deaths in 1915.

MEASLES.

A decline in case incidence was observed during the year. Ninety-two cases with one death in comparison with 294 cases and six deaths reported in 1916.

DYSENTERY.

The following return shows the number of observed cases that have come under observation in Government Civil Institutions only :—

	1914.		1915.		1916.		1917.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Europeans	96	1	134	1	246	6	84	—
Other Nationalities	2,717	144	2,588	167	3,323	191	2,529	160
Total	2,813	145	2,722	168	3,569	197	2,613	160

In addition to these, the Medical Officers of Health have reported 2,559 deaths from dysentery and diarrhoea in the townships of Mombasa, Nairobi and Kisumu.

MUMPS.

Two hundred and thirty-three cases were reported during the year.

ANTHRAX.

Forty-two cases and one death were reported. One European suffered from the disease.

The following table shows the number of cases treated in the Quarantine Camps during the year :—

Disease.	Mombasa.		Nairobi.		Kisumu.		TOTAL.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	CASES.	DEATHS.
Anthrax... ..	—	—	24	1	2	—	26	1
Cerebro-spinal meningitis	2	2	259	187	116	86	377	275
Chicken-pox	11	—	273	—	76	2	360	2
Dysentery	1	—	1	1	13	3	15	4
Enteric	—	—	2	—	—	—	2	—
Leprosy	18	3	—	—	4	—	22	3
Measles	2	—	6	—	16	—	24	—
Malaria	5	—	—	—	3	—	8	—
Mumps	—	—	29	—	7	—	36	—
Plague	38	25	116	81	3	2	157	108
Pneumonia	—	—	—	—	26	17	26	17
Small-pox	11	7	70	9	43	14	124	30
Syphilis	—	—	2	—	—	—	2	—
Tetanus	—	—	—	—	1	—	1	—
Yaws	—	—	—	—	3	—	3	—
TOTAL	—	—	—	—	—	—	1,183	440

In addition to the above the following contacts were also interned in these camps.

Number of contacts interned at

	Nairobi.	Mombasa.	Kisumu.	TOTAL.
	1,018	452	146	1,616

HELMINTHIC DISEASES.

ANKYLOSTOMIASIS.

Fifty-five cases with 15 deaths have been reported during the year, *i.e.*, 42 cases with 14 deaths at the coast, and 13 cases and one death in the desert zone. All these were treated in hospital.

LEPROSY.

It has been found impracticable to establish a central lazaretto for the reception and treatment of lepers in any part of the Protectorate. At Mzizima on Mombasa Island, and near Malindi these persons are received at permanent camps where very little supervision can be exercised.

Cases of leprosy have been reported as coming under observation in all provinces in the country.

(iv.) GENERAL MEASURES.

SEWAGE DISPOSAL.

No water-borne system of sewage disposal has been established in any of the chief towns; nor have any works for the treatment of sewage been constructed.

Night soil is disposed of by dumping in the sea, trenching, incineration, collection, in cesspools, or distribution on the ground.

SCAVENGING.

With the exception of Kisumu, where the Conservancy Department is under the direction of the Health Office, executive control in other towns is vested in other authorities.

The disposal generally adopted is by means of dumping, burning or burial.

WATER SUPPLY.

The supplies to the principal towns in the country remains in the same state as last year, due to financial restrictions; it has been found impossible to further safeguard them by means of filtration, increased storage areas, chemical treatment, protection of the intake and gathering grounds.

DRAINAGE.

4,043 yards of new drains in Nairobi, and 207 yards in Kisumu were constructed during the year. The work of cleansing ditches and drains falls largely upon the Health Office Staffs in the towns; the work accomplished has been:—

Mombasa	..	..	..	..	..	1,310 yards.
Nairobi	..	..	..	..	..	78,170 „
Kisumu	..	..	..	..	..	19,890 „

This work has been well organised and sustained and has been of material benefit as the bulk of the sullage water and effluents from settled areas is discharged into earth drains.

BUSH CLEARING.

This important work has been actively prosecuted in most of the townships; in some places where this activity has not been supervised and controlled by the Health Offices, monetary grants have been made by the Division for the maintenance of working gangs.

Mombasa	..	..	..	..	..	782 acres
Nairobi	..	..	..	..	..	4,182 „
Kisumu	..	..	..	..	..	179 „

have been kept clear during the year.

HOUSING.

The establishment within townships of locations for Asiatic and native communities has shown little progress during the period under review. Little can be done at present to relieve the overcrowding that exists, though inspection of premises has been systematically maintained, and in Nairobi licences are granted by the Health Office prior to premises being occupied within the commercial areas.

INSPECTION OF PREMISES.

Mombasa	..	..	..	..	..	10,739
Nairobi	..	..	..	..	..	7,502
Kisumu	..	..	..	..	..	13,308

(v.) CONDITION OF TRADES AND FACTORIES.

PUBLIC MARKETS.

Mombasa	..	..	..	..	..	2
Nairobi	..	..	..	..	..	2
Kisumu	..	..	..	..	..	1

The new public market at Mombasa remains unfinished, and the greater portion of the Jeevanjee Market, Nairobi, is still unoccupied; while the native market in that town presents many insanitary features. The market at Kisumu is a private enterprise.

SLAUGHTER-HOUSES.

Kisumu	..	..	..	..	..	2
Nairobi	..	..	..	..	..	2
Mombasa	..	..	..	..	..	2

Meat inspection is undertaken by the Health Office staff at Mombasa, where portions of 495 carcasses were seized during the year; and 1,309 inspections of slaughter-houses and cattle byres were made, 273 at Kisumu, and 173 at Nairobi.

At Nairobi the arrangements at the abattoir are in the hands of the Municipality and directly controlled by it.

NAIROBI.

Number of animals slaughtered and carcasses examined at Municipal Slaughter House (excluding military) :

Oxen	..	..	..	..	..	2,910
Sheep and Goats	..	..	..	..	..	20,938
Pigs	..	..	..	..	..	289
Game	..	..	..	..	..	11
						24,148

Number of carcasses condemned as unfit for food :—

Oxen	..	..	..	..	..	108
Sheep	..	..	..	..	..	45

in addition 182 carcasses (including military) were removed from the slaughter-house as unfit for food, and were calcined.

AERATED WATER AND ICE FACTORIES.

195. inspections were made at Mombasa, 82 at Nairobi and six at Kisumu. At the latter town the Railway Department maintains a factory. Private premises have generally been maintained in an efficient state.

DAIRIES AND MILK SUPPLY.

The regulation of the milk supply is urgently needed. Considerable activity was displayed at Nairobi in submitting samples of milk for analysis.

Eighty-two samples were received for analysis; of these 49 were adulterated, 59·7 per cent. A comparative table showing the percentages of adulterations is appended.

1913	..	..	34%	1916	..	..	64%
1914	..	..	70%	1917	..	..	59·7%
1915	..	..	73%				

FOOD INSPECTION.

Inspection of various food commodities was conducted at Nairobi, Mombasa and Kisumu. 26,357 samples were seized and examined by the Health Office staff; of these 9,926 were condemned as unfit for human consumption.

DISINFECTION.

This branch of sanitary work is generally undertaken by the Division. The following table gives some indication of the extent and nature of the work performed.

Premises	..	..	..	..	2,989
Vessels	..	..	..	..	12
Railway vehicles and truck loads of material	..	..	..	..	1,522
Other material and articles	..	..	..	..	21,290

SHIPPING.

Bills of Health issued :—

Port.	1914.		1915.		1916.		1917.	
	Steamers.	Dhows.	Steamers.	Dhows.	Steamers.	Dhows.	Steamers.	Dhows.
Mombasa	426	115	189	84	164	191	107	400
Lamu	17	378	13	—	10	118	1	175
Kismayu	55	46	38	51	27	44	16	45

Revenue derived from Bills of Health at Coast Ports :—

Mombasa	...	...	Rs. 1,127-00
Lamu	...	...	Rs. 1,496-00
Kismayu	...	...	Rs. 457-50
			————— Total Rs. 3,080-50

IV.—METEOROLOGY.

There is no bureau of meteorology in the Protectorate, and the department which makes itself responsible for collating such statistical information as is available is the Agricultural.

Only at the Laboratory, Nairobi, are hygrometrical observations taken; nowhere are solar temperatures or notes as to the force and direction of the wind recorded.

TABLES SHOWING MEAN ANNUAL RAINFALL AT VARIOUS POINTS IN THE DIFFERENT AREAS FOR THE THREE YEARS.

COAST AREA.

STATION.	1917.	1916.	1915.
Malindi... ..	27·11	33·90	46·16
Mombasa	40·83	42·37	57·45
Mazerus (11 months 1917)	21·80	33·85	67·30
Mackinnon Road	20·36	18·17	32·05
Voi (11 months 1916)... ..	17·20	26·63	22·38

MOUNTAINOUS AREA.

Masongaleni	25·58	23·60	18·79
Makindu	17·50	68·89	18·90
Kiu	23·28	22·49	30·27
Athi River	27·61	27·58	18·07
Nairobi Laboratory	57·22	46·03	24·01
Kabete (near Nairobi)	57·85	46·55	37·21
Naivasha	39·45	36·49	20·30
Nakuru... ..	68·20	45·03	35·61
Molo	71·05	67·80	48·95
Eldama Ravine	72·35	55·55	43·49

NYANZA AND KENIA PROVINCES.

Lumbwa	61·23	54·58	43·10
Muhoroni	63·05	84·81	97·24
Kisumu... ..	46·40	56·28	46·87
Mumias... ..	87·00	79·76	76·26
Kericho... ..	84·74	81·85	80·00
Nandi	86·65	83·83	54·25
Fort Hall	59·18	53·23	51·56
Nyeri	52·04	34·62	30·16
West Kenia	29·55	27·32	33·06

DESERT AREA.

Kismayu	15·02	19·45	16·65
Gosha Alexandra	(closed)	22·33	17·97
M'fudu (11 months 1917)	19·27	—	—

Temperature and rainfall tables for Mombasa, Nairobi, Kisumu and Fort Hall are inserted in Table V. of the returns.

V.—HOSPITALS, DISPENSARIES AND INSTITUTIONS.

1.—EUROPEAN HOSPITALS AT NAIROBI AND MOMBASA.

The European Hospital at Nairobi was closed down as a military unit at the end of December, 1916—the first beginning of the gradual demobilisation of the military responsibilities borne by the medical department during the war. In Mombasa the Protectorate hospital reverted to civil in October, 1917, it having been up till then the officers' ward. Here the military and naval annexe still remained, under the control of Captain F. L. Henderson, E.A.M.S. The comparison table of admissions and deaths for the two hospitals is as follows :—

TABLE SHOWING ADMISSION AND DEATH RATES.

	1917	1916.	1915.
Total number of beds	24	24	29
Total number treated	269	192	340
Total number discharged	247	176	321
Total number of deaths	11	8	10
Total number remaining	11	8	9

The military work at Mombasa involved the admission of 244 officers up to October, while in the British Base Hospital (the annexe) there were admitted 353 officers and 2,381 rank and file during the year, which included a large number of wounded. The greater number of these cases were transfers.

Of the total civil cases treated in hospital 104 were officials and the remaining 165 drawn from the general European population ; thus the percentage use of the hospital was :—

Officials	39%
General population	61%

The total out-patients who came under the observation of the medical officers were :—

Government officials	116
General population	164

Administration.—At Nairobi, Dr. H. F. Hamilton, of the W.A.M.S., was in charge for practically the whole year, with a nursing staff of one matron and three sisters, later reinforced by two V.A.D. probationers. It was necessary to withdraw one of the sisters for duty in the plague wards of the quarantine camp for a fortnight.

At Mombasa, Captain F. L. Henderson, E.A.M.S., was in charge continuously with one senior nursing sister and two sisters.

Mortality.—Nairobi admitted 188 persons, a very considerable drop from previous years, due to the withdrawal of military cases. There were nine deaths in all, two of whom were officials, their deaths being due to pneumonia and V.D. of heart ; and seven amongst the general population, the causes being malaria, paratyphoid, meningitis, V.D.H., empyema, ascites and carcinoma.

In Mombasa two deaths occurred, one from aortic disease (official) the other (non-official) from acute rheumatism with endocarditis. The mortality rate for the combined hospitals works out at 40·8 per 1,000 of cases treated.

The prevailing diseases were :—

Malaria.—In Nairobi 43 cases came under treatment with one death. The varieties were: Quartan one, benign-tertian seven, and sub-tertian 35.

Mombasa dealt with 32 cases, with no death.

Dysentery.—There were four cases of bacillary dysentery and two amœbic at Nairobi.

Mombasa had eight admissions.

Blackwater Fever.—There was one case at Nairobi which recovered, and none at Mombasa.

Enteric.—One case at Nairobi, also one case of para-typhoid, the latter fatal, and one at Mombasa. A striking decrease as compared with past years—four in 1916 with one death, and 20 in 1915 with four deaths.

Anthrax.—One case was admitted in Nairobi. Recovery ensued.

Tonsillitis.—Gave nine admissions in Nairobi. This disease is especially prevalent in the first months of the year.

Operations.—There were 34 major and 24 minor operations performed at the Nairobi hospital, all of which had satisfactory results. The following is the list of major operations, including six officials :—

- 1 Ruptured perineum (perineorrhaphy).
- 1 Stitch sinus (kidney) removal of.
- 8 Appendicectomy.
- 2 Removal of loose body in knee-joint.
- 1 Removal of retained testis.
- 2 Incision of cornea.
- 1 Gangrene of skin-repair by flaps.
- 2 Radical cure for hernia.
- 1 Amputation of thigh.
- 4 Curettage.
- 1 Laparotomy.
- 1 Decompression (skull).
- 1 Needling (cataract).
- 1 Opening mastoid abscess.
- 1 Ligature of hæmorrhoids.
- 3 Urethrotomy.
- 1 Hysterectomy.
- 1 Abscess of liver.
- 1 Enucleation of eye.

34

Sanitation.—No new buildings were erected at either hospital during the year. The operating theatre at Nairobi was improved by the addition of Tobin's tubes and all beds were provided with mosquito nets. The latrine arrangements are far from good. Mombasa hospital remained in the same condition it has been in the past, and the provision of new wards is much to be desired.

2.—THE CIVIL HOSPITALS AND DISPENSARIES.

The collated returns of the admissions, deaths, and death-rate per mille for the last three years of all the native hospitals and dispensaries were as follows :—

	1917.		1916.		1915.	
	In.	Out.	In.	Out.	In.	Out.
Admissions	12,825	92,376	12,273	95,550	11,202	85,987
Deaths	1,121	—	1,068	—	621	—
Death rate per 1,000 admissions	87·40	—	87·02	—	55·43	—

The following *full charge hospitals*, *i.e.*, with a medical officer in charge, are established at the following stations.

Against each institution are noted the number of beds in 1917 :—

Coast.—Mombasa, (78) ; Lamu (7) ; .

Uplands.—Nairobi (56) ; Nakuru (26) ; Eldoret (10).

Labour Provinces.—Kisumu (64) ; Fort Hall (15) ; Nyeri (16).

Desert.—Kismayu (12).

Of the nine buildings, six are stone, two galvanised iron and wood, while Eldoret possesses four wooden huts. Only two of them can be said to approach the modern conception of a hospital establishment, *viz.*, Mombasa and Kisumu.

Of SUB-CHARGE HOSPITALS AND DISPENSARIES, *i.e.*, with a sub-assistant surgeon or hospital compounder in charge, there were :—

Coast.—Malindi (23) ; Mombasa Gaol (21).

Uplands.—Makindu (24) ; Kyambu (9) ; Machakos (2) ; Nairobi Gaol (23) ; Naivasha (6) ; Eldama Ravine (8) ; Kacheliba (4) ; Kabarnet (6) ; Lokiriana (4).

Labour Provinces.—Embu (5) ; Meru (3) ; Mumias (4) ; Kisumu Gaol (6) ; Kericho (4) ; Kitui (2) ; Nandi (6).

Desert.—Archer's Post (6) ; Moyale (8) ; Gobwen (military 5) ; Yonti (military 10) ; M'fudu (4).

DISPENSARIES (providing also out-patient relief) were in full use at railway workshop, Mombasa, and railway workshop, Nairobi.

All these buildings were, generally speaking, of the most primitive construction, having as hospital wards little more than grass huts for the reception of urgent cases.

There were thus under the charge of medical officers : Hospitals, nine, beds 284 ; under sub-charge hospitals and dispensaries, 23, with 193 beds. Dispensaries totalled two. The grand total of the institutions catering for the medical needs of the Protectorate in 1917 was 34 with 477 beds.

No new stations were opened during the year. Kisii has remained closed since enemy action in 1914. The following centres were under military control during 1917, Mombasa, Voi, Kisumu and Nairobi.

The 1917-18 estimates only provided for additions to Lunatic Asylum and Quarantine Stations at Mombasa, Nairobi and Kisumu.

A long list of recommendations was submitted for various minor improvements few of which were effected.

The total number of menial African and Asiatic staff employed at these places was 160.

3.—LUNATIC ASYLUM.

The following table gives the number of admissions and deaths during the last three years :—

	Admissions.			Deaths.		
	1917.	1916.	1915.	1917.	1916.	1915.
Males	71	76	52	17	24	19
Females	11	14	5	2	4	1
Total	82	90	57	19	28	20

Dr. J. H. Thomson submits his fourth annual report on the Asylum as follows :—

During the year 139 patients were treated altogether.

Admissions.—The number admitted was 82 ; males 71, females 11. This was smaller than last year but only urgent cases were taken in on account of the overcrowded state of the asylum.

Notwithstanding the fact that fewer patients were admitted the population of the asylum had increased. This shows the fact that we are accumulating a residue of chronic cases and we will continue to do so in ever-increasing numbers. Nairobi, as usual, furnishes the greatest number of cases, with a few from other centres like Mombasa and Kisumu : and with one or two each from places where the native comes in contact with the white man. As far as I can gather insanity is very prevalent among all the native races in this country, especially in transient forms. The natives allege that this insanity is always worse at the full of the moon. I believe that the lower down the scale you go the more easily is the mental balance affected, at least temporarily, in spite of all the talk about the high pressure, etc., of life in the highly civilised countries. The principal admissions were :—Mania 41, melancholia five, delusional insanity two, paranoia one. Some of the cases which were only kept for ten days were suffering from the transient form of insanity which I have called “ Ngoma.” In two cases, where mothers murdered their children, I have stated that in my opinion their actions were due to this temporary insanity, and the High Court upheld my view. There is a lot to be worked out yet regarding the different insanities, especially the transient ones among the natives.

There were no escapes from the asylum during the year.

European Admissions.—Four only were admitted ; all males.

Their nationalities were : South Africa one, Greek one, English two.

One of the cases was a man who had murdered his brother. The Court found that he was an imbecile, unfit to plead, and ordered him to the asylum. Another case was a paranoic of unseen agency. He had all the characteristics, and had had so apparently for years of the mattoid paranoic of Lombroso, and would have kept out of the asylum if he had not been addicted to dipsomania also. The third case was that of a Greek sent from German East Africa ; while the fourth was a case of delirium tremens. The admission rate of Europeans is very small considering that this is supposed to be a “ nery ” country.

1917	1916	1915
4	11	10

There were one or two other instances of insanity among the European population which were not dealt with in the asylum.

Asiatic Admissions.—Indians, eight men and one woman. Goan, one man.

The Indians are generally a very quiet lot in the asylum, and seem to sink into apathy, with rare exceptions. We will never have a big residue of Asiatics as their

friends are always eager to take them to India. As soon as acute symptoms abate, indeed, very often no sooner does a case come into the asylum than friends begin worrying, through lawyers, etc., to get him out again.

Discharges.—Forty-eight were discharged cured and ten improved. The rate of cured to admitted was 60 per cent. Last year it was 41·1 per cent. and the year before 68·4 per cent. This is much higher than at home, but the reason is, in my opinion, that there are far more cases of temporary insanity here.

Deaths.—There were 19. Most of the patients died of debility, being in a very bad condition when admitted. The ratio of deaths to admission was 23·1 per cent., to total number resident during the year 13·4 per cent.

				Deaths.	Percentage of Admission.	Percentage of Total.
1916	...	...	...	28	31	22·9
1915	...	...	...	20	35	21·2

The decrease is very satisfactory considering the overcrowding of the asylum, the lack of a hospital ward and the dismal unhygienic cells the native patients occupy. It is a great wonder to me that the bugbear of asylums at home, dysentery, does not frequently appear. In a country like this, where it is so prevalent, it says a lot for the care taken of the patients that we are entirely free from it.

Births.—One European woman gave birth to a female child.

Remaining.—Four Europeans remain, of whom two, one man and one woman, are apparently permanent fixtures. One native male has been in 2,577 days and another 2,106. Mania 38, melancholia five, delusional insanity four, moral insanity one, are the principal forms of insanity. There are two cases which I am practically sure are suffering from general paralysis. Natives are supposed to get the disease but seldom, as it is a disease of civilisation. It is curious that both are Swahilis who are semi-civilised. Hæmatoma Auris, which is fairly common in asylums at home, and which usually indicates incurability, I have not yet met here.

General.—We have at last got electric lighting in the asylum, which was a long-felt want. No new buildings were put up during the year, but communication has been made with the asylum authorities in Cape Colony so that their experienced advice may be had in future building. A bungalow for female Europeans is about to be built. There is a crying need for more room for natives and Indians. New buildings, even though temporary, are required at once.

The asylum is on a very bad site. Nearly all the ground available round about is composed of murrum with rock outcrops. When one bears in mind that the asylum must grow in time to some hundreds, and that outdoor work is the finest treatment, it will be seen how great a handicap such a site will become where there is little acreage for crops. The high road passes through the area, which is another handicap. I would strongly urge that some steps be taken to get a site where we would have from 500 to 1,000 acres of good land.

The Lunacy Act in force in this country is the Indian Asylum Act, of 1854, which is obsolete in India and is difficult to work. It is superseded in India by the Indian Lunacy Act of 1912, a much better one. With modifications it would be a very good one for this country.

Staff.—The European staff consists of the Superintendent and his wife, who acts as matron. Attempts have been made to get another European as male attendant, but without success. The patients always look well cared for and seem contented. The menial staff is composed of poor material, except the head attendant, and it speaks well for the Superintendent that he makes them as good as they are. They are for the most part raw Kikuyus picked up anywhere. With the poor

pay and little prospect a better class cannot be got. They should be on the same footing as the police and have an incentive to do their work properly. A better class should be aimed for, such as K.A.R. askaris, unfitted for active service. A great majority of the asylum attendants at home are ex-soldiers and they make far the best.

4.—GOVERNMENT DENTAL SURGERY.

The Government Dental Surgeon reports that the work performed during 1917, in Nairobi, has been very heavy and the difficulties in carrying it out have been increased by the frequent tours to out-stations.

The following out-stations were visited three times during the year, Mombasa, Kisumu and Nakuru; and Fort Hall twice.

Allowing for the number of days spent in travelling, holidays, and week-ends, the total number of days on which patients were attended totals 260.

Working days	..	..	..	..	..	260
Appointments	..	..	..	..	..	1,394
European officials and families	..	..	..	..	..	825
Non-European officials	..	..	..	..	..	15
Total official patients	..	..	..	..	..	840

Owing to the lack of proper record charts the details of conditions treated have not been recorded with sufficient accuracy to enable one to append a table.

The following conditions were treated :—

Extractions	..	..	..	Approximately	100
CONSERVATIVE WORK :—					
Gold fillings	..	..	..	..	5
Plastic fillings	..	..	..	..	1,001
Gold inlays	..	..	..	..	5
Porcelain inlays	..	..	..	..	1
G.P. and arsenic	..	..	..	..	10
Root fillings	..	..	..	..	158
CLEANING AND SCALING	..	..	..	Not recorded	
Application of Ag. No. 3	..	..	..	..	7
PROSTHETIC WORK.					
<i>Crowns</i> :—					
Gold	..	..	..	..	7
Porcelain	..	..	..	..	8
Pivots	..	..	..	..	—
Bridge work	..	..	..	..	3
<i>Dentures</i> :—					
Gold	..	..	..	..	2
Vulcanite	..	..	..	..	46
Repairs to dentures	..	..	..	..	38

5.—GAOLS.

This report, with the statistical table given below, only refers to the main convict establishments at Nairobi, Mombasa and Kisumu. Prisons are established at nearly all the out-stations and are, as a rule, of better class of building than anything else in the station. There is nothing particular to report on from them.

Of the establishments mentioned Kisumu and Mombasa have cells set aside as hospital wards, containing six and 21 beds respectively. Nairobi has made a commencement with a three-roomed hospital of 23 beds in a separate compound.

The accommodation for sick at Nairobi and Kisumu is hopelessly insufficient. From the table it will be seen that double this accommodation is required for Nairobi.

The medical service of these gaols is under the charge of the Medical Officers of the native hospitals. At Mombasa there is the whole time services of a non-residential hospital compounder. The others are visited daily by Sub-Assistant Surgeons and as often as possible by the Medical Officers. The nursing arrangements of these hospital wards are primitive to a degree; the attendants being selected from the convicts. This means that bad cases, in the interests of the patients, are withdrawn from custody and are admitted to the native hospitals, which is of course illegal. None of the prisons are supplied with isolation wards for segregating those suffering from communicable diseases.

The overcrowding that periodically takes place is another serious matter and in this respect Nairobi is very badly served. Another point to which attention has previously been directed in the annual reports is the impossibility of satisfactorily adapting the Arab and Portuguese mediæval dungeons at Kismayu, Lamu, Malindi and Mombasa to suit modern gaol requirements. They should either be preserved intact as monuments of the past, more especially in a land where such heritages are few, or gutted and re-made entirely utilitarian.

TABLE SHOWING SICK AND DEATH RATES AMONGST PRISONERS AT THE MOMBASA, NAIROBI AND KISUMU GAOLS.

	Mombasa.		Nairobi.		Kisumu	
	1917.	1916.	1917.	1916.	1917.	1916.
Total number of prisoners on 1st January	184	210	784	431	123	70
Number admitted during year ...	409	469	2,243	1,794	426	923
Average daily number in gaol ...	195	186	635	600	91	100
Total number placed on sick list ...	381	530	803	457	164	152
Total number of days on sick list ...	2,863	4,872	14,143	7,735	1,217	1,063
Average number sick daily	7.84	13.31	38.75	21.13	3.33	2.91
Total number of deaths	7	11	57	27	6	11
Percentage of deaths to average daily strength	3.59	5.91	8.98	4.50	8.79	11

The general health of the prisoners at Mombasa Gaol was satisfactory during the year, with the exception of an outbreak of dysentery. The continued use of the tank water supply which is contaminated after dry weather with dirt off the roofs was probably the cause of this. Now that the town has the advantage of a pipe water supply it is essential that this should be installed. The incidence of *malaria* was for the year 191 cases as compared with 225 in 1916. The first three quarters of the year gave an average of 57 cases as compared with 19 in the last quarter of the year.

The only interesting point to note at Kisumu Gaol was a small epidemic of dysentery, apparently of the amoebic type, which occurred in the last quarter of the year and occasioned five deaths. It was necessary to remove the cases to the Civil Hospital before it was controlled. The accommodation at this Gaol is for 120 convicts; in November there were 183—comment is unnecessary.

In Nairobi Prison four diseases are chiefly responsible for the sick rate—dysentery, diarrhoea, pneumonia and malaria.

Dysentery.—Out of 78 cases admitted seven were fatal. It is prevalent more or less all the year round and probably depends on the admission of new cases. It is also probable that prisoners engaged on road repairs in Nairobi are liable to contract the infection. For want of accommodation convalescents are not segregated and the overcrowding in the cells also contributes to its continued presence. Microscopically both varieties are met with, though bacillary is the commonest. Two cases of the amoebic form were successfully treated by emetine injections.

Diarrhœa.—This is of course a common complaint amongst natives and, with dysentery, occurred mostly in the convicts from Kisii inhabiting the Nyanza basin. The diet of the prisoners was on the whole of good quality and sufficient, but the clerical work required in filling up complicated forms, in drawing up special rations for the sick and ailing of the different tribes occupies time beyond the reach of Medical Officers. Full use of the resources of the prison stores are thus not made use of. Thirty European prisoners were incarcerated during the year, and this number resulted in 38 admissions for treatment. Their general health was satisfactory. There is no European Hospital attached to the gaol, anyone contracting a serious illness is sent to the European Hospital, Nairobi.

Pneumonia, as usual, claimed the heaviest mortality. Out of 122 cases under treatment 33 died. The prisoners all sleep on a coir mat and blanket on the stone floors, and, wet or dry, are allowed one change of clothing per week.

In conclusion, it may be said that the medical work at this prison was much hampered by the over-crowding and insufficient hospital accommodation.

Kisumu, Nairobi and Mombasa being gazetted asylums, admitted 21, four and one lunatics respectively.

The following table shows causes of deaths during the year:—

Cerebro-spinal meningitis	..	..	..	2
Dysentery	..	..	..	10
Marasmus (insanity)	..	..	..	1
Pneumonia	..	..	..	38
Malaria	..	..	..	3
Gonorrhœa	..	..	..	1
Tuberculosis	..	..	..	2
Anæmia	..	..	..	3
Bronchitis	..	..	..	1
Asthma	..	..	..	1
Gastritis	..	..	..	1
Diarrhœa	..	..	..	6
Other diseases	..	..	..	1
Total	..	..	70	

RETURNS.

TABLE I.

ADMINISTRATIVE DIVISION.

Dr. A. D. Milne, C.M.G.	...	Principal Medical Officer.
Dr. J. A. Haran, C.M.G.	...	Deputy Principal Medical Officer.
Mr. R. Stanley	... ..	Office Superintendent.
Mr. T. Preston	... ..	Clerk.
Mr. F. Cribb	... ..	"
Mr. J. S. Robertson	... ..	Medical Storekeeper.

MEDICAL DIVISION.

Dr. W. Owen-Prichard...	...	Senior Medical Officer.	
Dr. C. L. Chevallier	... ..	"	"
Dr. F. L. Henderson	... ..	Medical Officer.	
Dr. J. O. Shircore	... ..	"	"
Dr. G. R. H. Chell	... ..	"	"
Dr. T. F. Lumb	... ..	"	"
Dr. J. L. Gilks	... ..	"	"
Dr. J. Pugh	... ..	"	"
Dr. C. J. Wilson	... ..	"	"
Dr. V. G. L. van Someren	...	Dental Surgeon.	
Dr. N. P. Jewell	... ..	Medical Officer.	
Dr. A. D. J. B. Williams	... ..	"	"
Dr. T. H. Massey	... ..	"	"
Dr. P. F. Nunan	... ..	"	"
Dr. J. H. Thomson	... ..	"	"
Dr. R. W. Spence	... ..	"	"
Dr. H. R. A. Philp	... ..	District Surgeon.	
Dr. H. F. Hamilton	... ..	Medical Officer	} Temporarily seconded from the West African Medical Staff.
Dr. J. McK. Clark	... ..	"	
Dr. P. A. Clearkin	... ..	"	
Dr. J. M. O'Connell	... ..	"	
Mr. F. Knott	... ..	Dispenser.	
Mr. H. Ogden	... ..	"	
Miss F. L. Neave	... ..	"	
Miss E. R. Brown	... ..	Matron.	
Miss H. H. Whitburn	... ..	Nursing Sister.	
Miss L. Merryweather	... ..	"	"
Miss R. Paul	... ..	"	"
Miss I. L. Majendie, R.R.C.	... ..	"	"
Miss I. Wilson	... ..	"	"
Miss S. J. Harrison	... ..	"	"
Miss E. E. Hobson	... ..	"	"
Miss A. B. Drewe	... ..	"	"
Miss R. S. Blyth	... ..	"	"
Mr. W. Henfrey	... ..	Supt. Lunatic Asylum.	
Mrs. L. A. Henfrey	... ..	Matron, Lunatic Asylum.	

TABLE I.—*continued.*

SANITATION DIVISION.

Dr. W. J. Radford	...	...	Principal Sanitation Officer.
Dr. R. Small	...	..	M. O. H., Mombasa.
Dr. B. W. Cherrett	...	...	M. O. H., Nairobi.
Mr. A. F. Dennett	...	...	Sanitary Inspector.
Mr. E. E. F. Wetkin	...	...	" "
Mr. W. H. Wood	...	...	" "
Mr. E. E. Williams	...	...	" "
Mr. F. Strawbridge	...	...	" "
Mr. P. Cairns	...	...	" "
Mr. J. P. Cook	...	...	" "
Miss M. A. Thomlinson	...	...	Nurse attached to Health Office, Mombasa.

TABLE II.

FINANCIAL.

The sanctioned Medical Budget for the year 1917–18 was a total of £60,086, as compared with £56,833 for the preceding year.

Of the 1917–18 grand total, £48,975 2s. 4d. was expended, leaving an unexpended sum of £11,110 17s. 8d.

The saving was chiefly due to appointments provided for not being able to be filled, curtailment of leave and other matters due to the general upset resulting from war conditions.

The headings under which the vote was arranged were as follows :—

SCHEDULE XIV.—MEDICAL DEPARTMENT.

	Estimate.	Actual Expenditure.
	£	£
ADMINISTRATIVE DIVISION.		
Personal Emoluments	3,453	3,055
(Under this heading are included the salaries and any duty allowances granted, of the Principal Medical Officer, Deputy Principal Medical Officer, Office Superintendent, Medical Storekeeper, Clerical establishment, messengers and packers.)		
Other charges	4,480	3,927 2 8
(Under this heading are included Conservancy rates, contingencies, transport: passages, local travelling, travelling allowances, and carriage of goods.)		
MEDICAL DIVISION.		
Personal Emoluments	25,085	22,206 5 4
(Under this heading are included the salaries and any duty allowances granted, of the Senior Medical Officers, Medical Officers, Dispensers, Nurses, Superintendent and Matron Lunatic Asylum, Attendants, Assistant Surgeons, Sub-Assistant Surgeons, Hospital Compounders, Native Hospital Attendants, Lunatic Asylum Attendants, and uniform allowances.)		

TABLE II.—*continued.*SCHEDULE XIV.—MEDICAL DEPARTMENTS—*continued.*

	Estimate.	Actual Expenditure.
	£	£
Other charges	9,957	5,744

(Under this heading are included contingencies, upkeep of European and Native Hospitals, Lunatic Asylum, medical and surgical stores, including books; transport, passages, local travelling, travelling allowances and carriage of goods; ration allowances to Medical Subordinates in Northern Frontier District and Serenli, uniforms for Medical Staff, furniture and equipment for hospitals, typewriters, conservancy rates, fees and expenses of Medical Officers attending courses of instruction in England, and electric lighting of hospitals).

SANITATION DIVISION.

Personal emoluments	10,713	7,550	8	0
----------------------------	--------	-------	---	---

(Under this heading are included the salaries and any duty allowances granted, of the Principal Sanitation Officer, Medical Officers of Health, Sanitary Inspectors, Nurse, Assistant and Sub-Assistant Surgeons, Hospital Compounders, Vaccinators, Native Attendants for Infectious Diseases Hospitals, Leper Lazaretto and Quarantine stations, clerical establishment, mechanics for Clayton disinfectors, office, gharry and boat boys).

Other charges	6,398	6,492	5	4
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(Under this heading are included epidemics, Sanitary station, Zanzibar; transport: passages, local travelling, travelling allowances and carriage of goods; typewriters, maintenance of Infectious Diseases Hospitals, bush clearing, mosquito and sleeping sickness preventive measures, contingencies, ration allowances, furniture and equipment for Infectious Diseases Hospitals and Quarantine Stations, ambulance services, upkeep of disinfectors, and uniforms).

REVENUE.

The total amount of revenue collected as hospital fees, sales of medicines and surgical stores, bills of health and registration fees, was as follows:—

	£	s.	d.
Hospital fees	1,213	8	0
Sales of medicines	350	0	0
Bills of Health	272	9	4
Registration Fees	5	0	0
TOTAL ...	£1,840	17	4

Last year the total revenue collected amounted to £1,035.

The increase in Hospital fees was due to a larger number of the Civil population being provided for in the European Hospital, Nairobi, consequent on this establishment not being required during the year for military patients.

TABLE III.

RETURN OF STATISTICS OF POPULATION FOR THE YEAR 1917.

EAST AFRICA.						Europeans and Whites.	Africans. and Others.	Asiatics.
1. Number of Inhabitants in 1917	...	...	...	...	...	8,201*	3,000,000*	21,901
2. Number of Births registered in 1917	...	...	...	...	...	179	†	†
3. Number of Deaths registered in 1917	...	...	...	...	...	90	†	†
4. Number of Immigrants during 1917...	...	...	...	...	...	1,028	947‡	4,832
5. Number of Emigrants during 1917	...	...	...	...	...	905	688	5,340
6. Number of Inhabitants during 1916...	...	...	...	...	...	7,989*	3,000,000	22,409
Increase	...	...	...	...	...	212	...	...
Decrease	...	...	...	...	...	...	...	508

* Approximately. † Not registered. ‡ Includes Seychelles, Mauritius, etc.

N.B.—The last census taken was in 1911, and the number of European and Asiatic inhabitants shown in this table is not, therefore, very reliable.

TABLE IV.

1.—SUMMARY OF ROUTINE SANITARY WORK DONE DURING THE YEAR IN THE TOWN OF NAIROBI.

FOR THE YEAR ENDING 31ST DECEMBER, 1917.

						Approximate Area.	Number of proclaimed Open Spaces.
1915	...	...	...	7 sq. miles	...	{	1 Public Park.
1916	...	...	...	7 „ „	...		1 Municipal Forest.
1917	...	...	...	7 „ „	...		1 Public Park.
							1 Municipal Forest.
							1 Municipal Forest.

2.—POPULATION.

			Number of Natives.		Number of Europeans.		Total.
			Males.	Females.	Males.	Females.	Approx.
1915	...	...	No estimate possible.		No estimate possible.		No estimate possible.
1916	...	...					
1917	...	...					

3.—HOUSING.

				Number occupied by Europeans.	Number occupied by Natives and Asiatics.
Number of Houses :—					
1915	...	...	...	418	565
1916	...	...	...	428	582
1917	...	...	...	438	622

Number of Huts :—

1915	...	...	1,598	
1916	...	...	1,548	Approx. (not including Military).
1917	...	...	1,500	„ „ „ „

TABLE IV.—*continued.*

4.—MOSQUITO PROTECTION OF HOUSES.

	1915.	1916.	1917.
Number of European houses wholly mosquito-protected ...	<i>Nil</i>	<i>Nil</i>	<i>Nil</i>
Number of European houses with mosquito room ...	"	"	"
Number rendered during the year wholly mosquito-protected	"	"	"
Number rendered during the year partially mosquito-protected	"	"	"

5.—ERECTION OF NEW BUILDINGS DURING THE YEAR.

	1915.	1916.	1917.
Number of public buildings erected with sanction as to site, construction, and relation to other buildings ...	1	1	<i>Nil</i>
Number of houses erected with sanction as to site, construction, and relation to other buildings ...	31	27	47
Number of huts erected with sanction as to site, construction, and relation to other buildings ...	81	15	...
Number of houses built without sanction ...	2	5	...
Number of huts built without sanction ...	<i>Nil</i>	<i>Nil</i>	...

ACTION TAKEN.

	Number of Prosecutions.		Number Demolished.	
	Huts.	Houses.	Huts.	Houses.
1915 ...	8	6	39	4
1916 ...	5	5	100 (Approx).	4
1917 ...	...	...	...	...

6.—MARKETS.

	Total number.	Number paved and drained.	Number unpaved.
1915 ...	2	1	1
1916 ...	2	1	1
1917 ...	2	1	1

7.—SLAUGHTER-HOUSES.

	Total number.	Number paved and drained.	Number unpaved.
1915 ...	1	1	...
1916 ...	1	1	...
1917 ...	2	2	...

TABLE IV.—*continued.*

8.—LATRINES.

	For Males.		For Females.	
	Number.	Number of Seats.	Number.	Number of Seats.
Number of public latrines :—			European.	
1915	23	202	1	2
1916	26	210	1	2
1917	28	226	1	2
Number of new public latrines erected during the year :—				
1915	11	104	Public latrines provided for Asiatics and Africans and are used in common by males and females.	...
1916	1	8		...
1917	2	16		...
Number of public latrines repaired during the year :—				
1915	1	8		...
1916	...	...		...
1917	4	64		...
Number of public latrines demolished during the year :—				
1915	1	4		...
1916	...	...		...
1917	...	...		...

	1915.	1916.	1917.
Number of private latrines	2,283	2,372	2,482
Average number of pails of night-soil daily removed... ..	2,283	2,372	2,482
Average number of soiled pails removed and clean pails substituted	...	...	...
Number of night-soil men employed to clean latrines and to remove excreta	92	87	91
Number of cesspools	55	9	5
Number of cesspools cleaned	55	9	5
Number of new cesspools constructed during the year	...	...	...
Number of old cesspools abolished	31	46	4
Number of cesspools oiled regularly by Department	...	...	...

9.—REMOVAL OF REFUSE.

	1915.	1916.	1917.
Number of dustbins	1,307	1,310	1,381
Number of carts at work daily to remove refuse from streets	10	10	10
	(including 6 sludge carts)		
Amount of refuse removed daily	20	20	20
	(including 12 loads sludge)		
Number of carts at work daily to remove refuse from yards and premises	19	19	22
Amount of refuse removed daily from yards and premises	36	36	40
Number of men employed for removing refuse	83	83	88

TABLE IV.—*continued.*

10.—MODE OF DISPOSAL OF EXCRETA, REFUSE AND OFFAL.

	Daily average number of pails of excreta.			Daily average number of cartloads of refuse.			Daily average number of cartloads of slaughter- house and market offal.		
	1915.	1916.	1917.	1915.	1916.	1917.	1915.	1916.	1917.
Buried or trenched	2,487	2,576	2,710	...	...	...	3	6	6
Burnt	...	...	...	44	44	44	1	1	1
Thrown into sea	...	...	...	...	...	...	...	...	...
Otherwise dealt with	...	...	...	...	...	...	...	...	...

11.—AVERAGE DAILY NUMBER OF CARTLOADS OF CANS, BOTTLES, BROKEN CROCKERY AND OTHER INCOMBUSTIBLE MATERIAL REMOVED FROM HOUSES, HUTS AND COMPOUNDS.

	1915.	1916.	1917.
Cartloads	20	20	20

12.—WATER SUPPLY.

Nature of Water Supply.	1915.	1916.	1917.
Pipe-borne water :—			
Source (river, lake or spring)—	River and Spring.	River and Spring	River and Spring.
Number of linear yards	503,118	510,698	514,326
Number of standpipes along roads	53	53	53
Number of standpipes in compounds and houses ...	889	1,030	1,140
Wells :—			
Public—			
Number	<i>Nil</i>	<i>Nil</i>	<i>Nil</i>
Number with pumps protected against surface water and mosquito-protected	"	"	"
Private—			
Number	1	"	"
Number with pumps protected against surface water and mosquito-protected	<i>Nil</i>	"	"
Tanks :—			
Public—			
Number underground	<i>Nil</i>	<i>Nil</i>	<i>Nil</i>
Number mosquito-protected and served by pumps ...	"	"	"
Number above ground	"	"	"
Number mosquito-protected	"	"	"
Number of 400-gallons capacity or less	"	"	"
Number above 400 gallons	"	"	"
Private—			
Number underground	<i>Nil</i>	<i>Nil</i>	<i>Nil</i>
Number mosquito-protected	"	"	"
Number above ground... ..	163	155	155
Number mosquito-protected	163	155	155
Number of 400-gallons capacity or less	43	43	43
Number above 400 gallons	120	112	112
Nature of tanks :—			
Wood	<i>Nil</i>	<i>Nil</i>	<i>Nil</i>
Iron	163	155	155
Concrete	<i>Nil</i>	<i>Nil</i>	<i>Nil</i>
Barrels :—			
Number	150	150	150
Number mosquito-protected	140	140	140

TABLE IV.—continued.
13.—DRAINAGE.

	Public.	Private.
Masonry Drains—		
Linear yards of masonry drains—		
1915	25,653	No information
1916	31,905	"
1917	35,939	"
Linear yards reconstructed during the year—		
1915	Nil	"
1916	"	"
1917	"	"
Linear yards repaired during the year—		
1915	400	"
1916	500	"
1917	—	"
Linear yards of new drains constructed during the year—		
1915	1,141	"
1916	6,052	"
1917	4,034	"
Earth Drains or Ditches cleansed—		
Number of linear yards of ditches cleansed—		
1915	60,176	"
1916	67,722	"
1917	78,170	"
Number of linear yards of ditches dug and graded—		
1915	9,520	"
1916	6,000	"
1917	10,448	"
Average frequency of clearing ditches of grass—		
1915	When necessary	"
1916	"	"
1917	"	"

14.—CLEARANCE OF UNDERGROWTH, LONG GRASS
AND JUNGLE.

	1915.	1916.	1917.
Number of square yards of weeds, grass and vegetation cut and removed	5,575,680	13,319,680	19,998,720
Average frequency of clearance of rank vegetation on same area	When necessary	When necessary	When necessary

15.—EXCAVATIONS OF LOW-LYING LAND.

	1915.	1916.	1917.
Number of pools and excavations	20	20	34
Number of excavations filled up	34	334	61
Amount of low-lying and marsh land raised and drained	approx. 5 acres	approx. 2 acres	approx. 2 acres
Number of pools, marshes, etc., fish-stocked ...	Nil	Nil	Nil
Number of cubic yards of material used for filling up pools and excavations	No information	No information	No information
Number of persons fined for making new excavations	1	2	Nil
Average number of men daily employed in filling up pools, etc.	2	No fixed number	12

TABLE IV.—*continued.*

16.—OILING.

	1915.	1916.	1917.
Number of drains oiled	4	4	12
Number of pools and excavations oiled			
Number of tanks and barrels oiled			
Average number of men daily employed for oiling drains, pools and water-tanks or barrels			

All mosquito breeding places are either removed or disinfected.

17.—INSPECTIONS AND PROSECUTIONS.

	1915.	1916.	1917.
Number of Inspectors employed	2	2	3 and one temporary at the Rly. Station.
Number of houses inspected	8,196	8,766	7,502
Number of houses where larvæ were found	122	312	92
Number of notices served to remove conditions causing the breeding of larvæ	376	480	944
Number of persons fined for having mosquito larvæ on premises	...	1	2
Number of notices served to remove insanitary conditions on premises	891	924	1,256
Number of persons fined for not removing insanitary conditions after notice	36	38	32
Number of soda and aerated water factories inspected	2	4	4

TABLE IV.

1.—SUMMARY OF ROUTINE SANITARY WORK DONE DURING THE YEAR IN THE TOWN OF MOMBASA.

FOR THE YEAR ENDING 31ST DECEMBER, 1917.

	Approximate Area.	Number of proclaimed Open Spaces.
1915... ..	Island, $8\frac{3}{4}$ square miles, actual	1 public garden, area 1·8 acres.
1916... ..	Native town, 275 acres	1 public garden.
1917... ..	European town area, 194 acres	...

2.—POPULATION.

	Number of Natives.		Number of Europeans.		Total Approx.
	Males.	Females.	Males.	Females.	
1915	7,914	12,510	200	45	20,669
1916	7,862	12,458	189	38	20,547
1917	7,611	12,501	173	35	20,320

TABLE IV.—*continued.*

3.—HOUSING.

		Number occupied by Europeans.	Number occupied by Natives and Asiatics.
	Number of Houses :—		
	1915	108	900
	1916	110	1,127
	1917	110	1,013

Number of huts :—

1915	...	...	...	3,200
1916	...	...	...	3,553
1917	...	...	...	3,339

4.—MOSQUITO PROTECTION OF HOUSES.

	1915.	1916.	1917.
Number of European houses wholly mosquito-protected ...	} <i>Nil</i>	<i>Nil</i>	<i>Nil</i>
Number of European houses with mosquito room			
Number rendered during the year wholly mosquito-protected			
Number rendered during the year partially mosquito-protected			

5.—ERECTION OF NEW BUILDINGS DURING THE YEAR.

	1915.	1916.	1917.
Number of public buildings erected with sanction as to site, construction, and relation to other buildings	<i>Nil</i>	<i>Nil</i>	<i>Nil</i>
Number of houses erected with sanction as to site, construc- tion, and relation to other buildings	2	19	14
Number of huts erected with sanction as to site, construction, and relation to other buildings	139	240	242
Number of houses built without sanction	<i>Nil</i>	<i>Nil</i>	<i>Nil</i>
Number of huts built without sanction	<i>Nil</i>	<i>Nil</i>	<i>Nil</i>

ACTION TAKEN.

	Number of Prosecutions.		Number Demolished.	
	Huts.	Houses.	Huts.	Houses.
1915	<i>Nil</i>	10	145	12
1916	1	7	63	8
1917	<i>Nil</i>	<i>Nil</i>	214	21

TABLE IV.—*continued.*

6.—MARKETS.

	Total number.	Number paved and drained.	Number unpaved.
1915	3	2	1
1916	3	2	1
1917	3	2	1

7.—SLAUGHTER-HOUSES.

	Total number.	Number paved and drained.	Number unpaved.
1915	2	2	...
1916	2	2	<i>Nil</i>
1917	2	2	"

8.—LATRINES.

	For Males.		For Females.	
	Number.	Number of Seats.	Number.	Number of Seats.
Number of public latrines :—				
1915... ..	23	89	4	12
1916... ..	17	40	3	5
1917... ..	20	52	3	5
Number of new public latrines erected during the year :—				
1915... ..	5	26	...	...
1916... ..	<i>Nil</i>	<i>Nil</i>	<i>Nil</i>	<i>Nil</i>
1917... ..	3	12	8	"
Number of public latrines repaired during the year :—				
1915... ..	...	...	...	...
1916... ..	<i>Nil</i>	<i>Nil</i>	<i>Nil</i>	<i>Nil</i>
1917... ..	"	"	"	"
Number of public latrines demolished during the year :—				
1915... ..	3	6	...	...
1916... ..	6	49	<i>Nil</i>	5
1917... ..	<i>Nil</i>	<i>Nil</i>	...	<i>Nil</i>

	1915.	1916.	1917.
Number of private latrines	194	74	74
Average number of pails of nightsoil removed daily	180	180	301
Average number of soiled pails removed and clean pails substituted	Pails emptied and replaced nightly		
Number of nightsoil men employed to clean latrines and to remove excreta	39	17	24
Number of cesspools	Unknown	Approx. 5,917	Approx. 5,928
Number of cesspools cleansed	72	126	68
Number of new cesspools constructed during the year	63	278	38
Number of old cesspools abolished	29	63	22
Number of cesspools oiled regularly by Department	<i>Nil</i>	<i>Nil</i>	<i>Nil</i>

TABLE IV.—*continued.*

9.—REMOVAL OF REFUSE.

	1915.	1916.	1917.
Number of dustbins	347	220	220
Number of carts at work daily to remove refuse from streets	17	17	14
Amount of refuse removed daily	25 tons	20 tons	20 tons
Number of carts at work daily to remove refuse from yards and premises	1	1 trolley	1 trolley
Amount of refuse removed daily from yards and premises ...	1 ton	1 ton	1 ton
Number of men employed for removing refuse	173	164	180

10.—MODE OF DISPOSAL OF EXCRETA, REFUSE AND OFFAL.

	Daily average number of Pails of Excreta.			Daily average number of Cartloads of Refuse.			Daily average number of Cartloads of Slaughter-house and Market Offal.		
	1915.	1916.	1917.	1915.	1916.	1917.	1915.	1916.	1917.
Buried or trenched	...	...	...	...	...	42	Unmeasured.		
Burnt	175	...	...	...	42	...	...	...	...
Thrown into sea	180	180	301	...	...	...	Discharged direct into the sea.		
Otherwise dealt with	...	...	...	54	...	...	Unmeasured, discharged direct into sea.		

11.—AVERAGE DAILY NUMBER OF CARTLOADS OF CANS, BOTTLES, BROKEN CROCKERY AND OTHER INCOMBUSTIBLE MATERIAL REMOVED FROM HOUSES, HUTS AND COMPOUNDS.

	1915.	1916.	1917.
	4	4	4

TABLE IV.—*continued.*

12.—WATER SUPPLY.

Nature of Water Supply.	1915.	1916.	1917.
Pipe-borne water—	Pipe borne water Kilindini only.		
Source (river, lake, or spring)—	River.	River.	...
Number of linear yards	10,278	15,131	" P.W.D."
Number of stand-pipes along roads	12	17	...
Number of stand-pipes in compounds and houses ...	12	41	...
Wells :—			
Public—			
Number	28	28	28
Number with pumps protected against surface water and mosquito-protected	...	<i>Nil</i>	<i>Nil</i>
Private—			
Number	96	96	96
Number with pumps protected against surface water and mosquito-protected	<i>Nil</i>	<i>Nil</i>	<i>Nil</i>
Tanks :—			
Public—			
Number underground	...	...	...
Number mosquito-protected and served by pumps ...	...	...	...
Number above ground	...	...	...
Number mosquito-protected	...	...	...
Number of 400 gallons capacity or less	...	...	...
Number above 400 gallons	...	...	...
Private—			
Number underground	77	80	82
Number mosquito-protected	77	80	82
Number above ground	155	149	148
Number mosquito-protected	155	149	148
Number of 400 gallons capacity or less	111	105	105
Number above 400 gallons	121	124	125
Nature of Tanks :—			
Wood	...	<i>Nil</i>	<i>Nil</i>
Iron	155	149	148
Concrete	77	80	82
Barrels :—			
Number	Many hundreds. Impossible to estimate.	1,800 aprox.	1,600 aprox.
Number mosquito-protected	50%	60%	60%

TABLE IV.—*continued.*

13.—DRAINAGE.

	Public.	Private.
Masonry Drains :—		
Linear yards of masonry drains :—		
1915	4,937	1,493
1916	5,350	1,493 " P.W.D."
1917	...	1,493
Linear yards reconstructed during the year :—		
1915	50	Unknown
1916	...	Nil
1917	...	Nil
Linear yards repaired during the year :—		
1915	101	Unknown
1916	35	do.
1917	...	do. " P.W.D."
Linear yards of new drains constructed during the year :—		
1915	286	Unknown
1916	420	do.
1917	...	do. " P.W.D."
Earth drains or ditches cleansed—Number of linear yards of ditches cleansed :—		
1915	15,690	No record kept.
1916	4,920	do. do.
1917	1,310	do. do.
Number of linear yards of ditches dug and graded :—		
1915	4,354	Unknown
1916	1,935	do.
1917	1,160	do.
Average frequency of clearing ditches of grass :—		
1915	Twice in the dry season and fortnightly Bi-weekly during rains.	
1916		...
1917		...

14.—CLEARANCE OF UNDERGROWTH, LONG GRASS AND JUNGLE.

	1915.	1916.	1917.
Number of square yards of weeds, grass and vegetation cut and removed	1,744½ ac's	1,497 ac's	782
Average frequency of clearance of rank vegetation on same area	Maintained clear at least twice yearly.		

TABLE IV.—*continued.*
15.—EXCAVATIONS OF LOW-LYING LAND.

	1915.	1916.	1917.
Number of pools and excavations	27	27	4
Number of excavations filled up	30	11	Nil.
Amount of low-lying and marsh land raised and drained ...	3,479	850	90
		sq. yds.	sq. yds.
Number of pools, marshes, etc., fish-stocked	...	Nil.	Nil.
Number of cubic yards of material used for filling up pools and excavations	1,319	690	68
Number of persons fined for making new excavations ...	...	Nil.	Nil.
Average number of men daily employed in filling up pools, etc.	Casual labourers.	7	7

16.—OILING.

	1915.	1916.	1917.
Number of drains oiled	1	2	2
Number of pools and excavations oiled	2	4	3
Number of tanks and barrels oiled	150	150	315
Average number of men daily employed for oiling drains, pools, and water tanks or barrels	Casual labour only.	Nil.	Nil.

17.—INSPECTIONS AND PROSECUTIONS.

	1915.	1916.	1917.
Number of Inspectors employed	2	2 average.	2 average.
Number of houses inspected	7,359	5,046	7,350
Number of houses where larvæ were found	1,153	477	2,242
Number of notices served to remove conditions causing the breeding of larvæ	402	307	402
Number of persons fined for having mosquito larvæ on premises	26	23	Nil.
Number of notices served to remove insanitary conditions on premises	634	798	959
Number of persons fined for not removing insanitary conditions after notice	95	55	14
Number of soda and aerated water factories inspected	5	5	4

TABLE IV.

1.—SUMMARY OF ROUTINE SANITARY WORK DONE DURING THE YEAR IN THE TOWN OF KISUMU.

FOR THE YEAR ENDED 31ST DECEMBER, 1917.

	Approximate Area.	Number of proclaimed Open Spaces.
1915	19.6 sq. miles	1
1916	19.6 sq. miles	1
1917	19.6 sq. miles	1

2.—POPULATION.

	Number of Natives.		Number of Europeans.		Total approx.
	Males.	Females.	Males.	Females	
1915	4,000	1,000	85	26	5,111
1916	4,000	1,370	93	26	5,489
1917	Natives	Natives	101	38	6,810
	3,950	1,650			
	Asiatics	Asiatics			
	794	277			

TABLE IV.--*continued.*

3.—HOUSING.

	Number occupied by Europeans.	Number occupied by Natives and Asiatics.
Number of Houses :—		
1915	55	...
1916	55	142
1917	56	145

Number of Huts :—

1915	890
1916	890
1917	890

4.—MOSQUITO PROTECTION OF HOUSES.

	1915.	1916.	1917.
Number of European houses wholly mosquito-protected ...	11	11	18
Number of European houses with mosquito room	1	1	51
Number rendered during the year wholly mosquito-protected...	5	<i>Nil</i>	6
Number rendered during the year partially mosquito-protected	1	1	2

5.—ERECTION OF NEW BUILDINGS DURING THE YEAR.

	1915.	1916.	1917.
Number of public buildings erected with sanction as to site, construction, and relation to other buildings	<i>Nil</i>	<i>Nil</i>	<i>Nil</i>
Number of houses erected with sanction as to site, construction, and relation to other buildings	10	3	6
Number of huts erected with sanction as to site, construction, and relation to other buildings	53	...	...
Number of houses built without sanction	...	...	2
Number of huts built without sanction	25	...	...

ACTION TAKEN.

		Number of Prosecutions.		Number Demolished.	
		Huts.	Houses.	Huts.	Houses.
1915	...	...	...	80	...
1916	...	...	...	81	...
1917	...	...	2	147	2

6.—MARKETS.

	Total number.	Number paved and drained.	Number unpaved.
1915	1	1 drained and unpaved.	1
1916	1	1 do.	1
1917	1	1 do.	...

TABLE IV.—*continued.*
7.—SLAUGHTER-HOUSES.

	Total number.	Number paved and drained.	Number unpaved.
1915	2	2	<i>Nil</i>
1916	2	2	<i>Nil</i>
1917	2	2	<i>Nil</i>

8.—LATRINES.

	For Males.		For Females.	
	Number.	Number of Seats.	Number.	Number of Seats.
Number of public latrines :—			Public latrines are only provided for Asiatics and Africans, and are used in common by males and females.	
1915... ..	15	136		...
1916... ..	15	117		...
1917... ..	16	123		...
Number of new public latrines erected during the year :—				
1915... ..	4	45		...
1916... ..	<i>Nil</i>	<i>Nil</i>		...
1917... ..	1	6		...
Number of public latrines repaired during the year :—				
1915... ..	<i>Nil</i>	...		...
1916... ..	2	...		...
1917... ..	<i>Nil</i>	...		...
Number of public latrines demolished during the year :—				
1915... ..	2	12		...
1916... ..	1	...		...
1917... ..	<i>Nil</i>	<i>Nil</i>		...

LATRINES—*continued.*

	1915.	1916.	1917.
Number of private latrines	295	288	301
Average number of pails of nightsoil daily removed	700	622	646
Average number of soiled pails removed and clean pails substituted... ..	<i>Nil</i>	<i>Nil</i>	<i>Nil</i>
Number of nightsoil men employed to clean latrines and to remove excreta	42	42	42
Number of catchpits	119	119	131
Number of catchpits cleaned	119	119	131
Number of new catchpits constructed during the year	<i>Nil</i>	<i>Nil</i>	13
Number of old cesspools abolished	<i>Nil</i>	<i>Nil</i>	1
Number of cesspools oiled regularly by Department	<i>Nil</i>	<i>Nil</i>	<i>Nil</i>

9.—REMOVAL OF REFUSE.

	1915.	1916.	1917.
Number of dustbins	840 open wooden tubs.	470	379 { 351 iron lids, 28 open.
Number of carts at work daily to remove refuse from streets	6	6	6
Amount of refuse removed daily (carts)	36	36	36
Number of carts at work daily to remove refuse from yards and premises	6	10	10
Amount of refuse removed daily from yards and premises (carts)	18	30	30
Number of men employed for removing refuse	36	33	34

TABLE IV.—*continued.*

10.—MODE OF DISPOSAL OF EXCRETA, REFUSE, AND OFFAL.

	Daily average number of pails of excreta.			Daily average number of cartloads of refuse.			Daily average number of cartloads of slaughter- house and market offal.		
	1915.	1916.	1917.	1915.	1916.	1917.	1915.	1916.	1917.
Buried or trenched	700	622	646	...	22	22	1	1	1
Burnt	...	21	24	...	9	9	...	...	...
Thrown into sea	...	...	...	...	...	...	...	...	...
Otherwise dealt with	...	...	...	...	35	35	1	1	1

11.—AVERAGE DAILY NUMBER OF CARTLOADS OF CANS
BOTTLES, BROKEN CROCKERY, AND OTHER INCOMBUS-
TIBLE MATERIAL REMOVED FROM HOUSES, HUTS AND
COMPOUNDS.

1915.	1916.	1917.
2	3	3

12.—WATER SUPPLY.

Nature of Water Supply.	1915.	1916.	1917.
Pipe-borne water :—			
Source (river, lake or spring)—	Lake	Lake	Lake
Number of linear yards	11,506	12,000	12,000
Number of standpipes along roads	11	11	11
Number of standpipes in compounds and houses ...	67	72	72
Wells :—			
Public—			
Number	...	...	...
Number with pumps protected against surface water and mosquito-protected	...	...	...
Private—			
Number	...	...	...
Number with pumps protected against surface water and mosquito-protected	...	...	...
Tanks :—			
Public—			
Number underground	...	...	...
Number mosquito-protected and served by pumps ...	...	...	...
Number above ground	...	...	...
Number mosquito-protected	...	...	...
Number of 400 gallons capacity or less	...	...	...
Number above 400 gallons	...	...	...
Private—			
Number underground	...	...	...
Number mosquito-protected	...	...	...
Number above ground	192	193	194
Number mosquito-protected	Practically none satisfactorily.	...	Practically all satis- factorily.
Number of 400 gallons capacity or less	62	63	64
Number above 400 gallons	130	130	130
Nature of Tanks :—			
Wood	...	...	...
Iron, Galvanized	78	79	80
Concrete, Reinforced	114	114	114
Barrels —			
Number	...	...	...
Number mosquito-protected	...	...	...

TABLE IV.—*continued.*

13.—DRAINAGE.

	Public.	Private.
Masonry Drains :—		
Linear yards of masonry drains—		
1915	930	60
1916	2,996	60
1917	6,260	267
Linear yards reconstructed during the year—		
1915	...	...
1916	...	...
1917	...	...
Linear yards repaired during the year—		
1915	...	...
1916	...	...
1917	...	137
Linear yards of new drains constructed during the year—		
1915	...	...
1916	2,066	...
1917	3,264	207
Earth drains or ditches cleansed :—		
Number of linear yards of ditches cleansed—		
1915	274,950 yds.	...
1916	40,000	...
1917	19,890	...
Number of linear yards of ditches dug and graded—		
1915	98,587	...
1916	550	...
1917	2,170	...
Average frequency of clearing ditches of grass—		
1915	fortnightly	...
1916	monthly	...
1917	monthly	...

14.—CLEARANCE OF UNDERGROWTH, LONG GRASS
AND JUNGLE.

	1915.	1916.	1917.
Number of square yards of weeds, grass and vegetation cut and removed	988,683	84,450	869,480
Average frequency of clearance of rank vegetation on same area	thrice yearly	four times yearly	four times yearly

15.—EXCAVATIONS OF LOW-LYING LAND.

	1915.	1916.	1917.
Number of pools and excavations	...	...	...
Number of excavations filled up... ..	25	11	8
Amount of low-lying and marsh land raised and drained	...	...	3½ acres.
Number of pools, marshes, etc., fish-stocked	Nil.	Nil.	Nil.
Number of cubic yards of material used for filling up pools and excavations	No record.	About 590.	1,970
Number of persons fined for making new excavations... ..	...	...	Nil.
Average number of men daily employed in filling up pools, etc.	...	7	32

TABLE IV.—*continued.*

16.—OILING.

	1915.	1916.	1917.
Number of drains oiled	30	Nil.	Nil.
Number of pools and excavations oiled	20	Nil.	Nil.
Number of tanks and barrels oiled	...	Nil	Nil.
Average number of men daily employed for oiling drains, pools and water-tanks or barrels	5	Nil.	Nil.

17.—INSPECTIONS AND PROSECUTIONS.

	1915.	1916.	1917.
Number of Inspectors employed... ..	1	1	1
Number of inspections made	1,074	2,844	13,308
Number of houses where larvæ were found	...	2	1
Number of notices served to remove conditions causing the breeding of larvæ	...	2	1
Number of persons fined for having mosquito larvæ on premises	...	...	...
Number of notices served to remove insanitary conditions on premises	103	312	277
Number of persons fined for not removing insanitary conditions after notice	4	13	45
Number of soda and aerated water factories inspected... ..	1	1	1

TABLE V.

METEOROLOGICAL RETURN FOR THE YEAR 1917.

GOVERNMENT LABORATORY, NAIROBI.

MONTH.	TEMPERATURE.						RAINFALL.			WINDS.		REMARKS.
	Solar Maximum.	Minimum on grass.	Shade Maximum.	Shade Minimum.	Mean Range.	Mean.	Amount in inches.	Degree of Humidity.		General Direction.	Average Force.	
								9 a.m.	4 p.m.			
January ...	...	...	74·7	55·18	19·52	64·94	2·71	76·57	65·56	...	...	“Short rains” failed.
February ...	...	...	76·77	56·21	20·56	66·49	5·74	77·94	65·42	...	...	
March ...	...	...	78·80	55·82	22·98	67·31	7·23	74·12	69·20	...	...	
April ...	...	...	75·0	57·35	17·65	66·17	11·89	82·40	76·00	...	...	
May ...	...	...	74·96	57·03	17·93	65·99	6·88	82·16	76·08	...	...	
June ..	...	...	73·28	54·62	18·66	63·95	7·15	82·41	78·30	East	...	
July ...	...	...	73·1	52·95	20·15	63·02	0·77	80·68	73·70	...	...	
August ...	...	...	72·58	53·90	18·68	63·24	3·17	81·25	77·15	...	...	
September ...	...	...	71·48	55·48	16·00	63·48	2·77	81·93	68·21	...	...	
October ...	...	...	76·61	56·56	20·05	66·58	2·80	81·47	76·52	...	...	
November ...	...	...	76·60	54·23	22·37	65·41	1·64	79·18	75·89	...	...	
December ...	...	...	81·05	51·81	29·24	66·43	0·00	72·28	62·24	...	...	
Year Average	...	...	75·41	55·09	20·32	65·25	52·75	79·36	72·02	...	...	

TABLE V.—*continued.*
METEOROLOGICAL RETURN FOR THE YEAR 1917.
KABETE FARM, NAIROBI.

MONTH.	TEMPERATURE.						RAINFALL.		WINDS.		Remarks.
	Solar Maximum.	Minimum on grass.	Shade Maximum.	Shade Minimum.	Range.	Max. and Min. Mean combined.	Amount in inches.	Degree of Humidity.	General Direction.	Average Force.	
January ...	...	...	78.0	40.0	...	60.9	6.30	...	...	...	
February ...	...	...	80.5	43.0	...	62.6	3.57	...	...	...	
March ...	...	...	79.0	43.0	...	62.9	8.11	...	...	...	
April ...	...	...	85.0	47.0	...	62.9	16.08	...	...	...	
May ...	...	...	75.0	45.0	...	62.1	7.16	...	...	...	
June ...	...	...	75.0	44.0	...	59.1	4.94	...	...	...	
July ...	...	...	77.0	42.0	...	58.0	0.67	...	...	...	
August ...	...	...	76.0	46.0	...	59.8	2.13	...	...	...	
September ...	...	...	79.0	44.0	...	60.7	1.94	...	...	...	
October ...	...	...	79.0	46.0	...	62.9	5.18	...	...	...	
November ...	...	...	77.0	42.5	...	61.5	1.70	...	...	...	
December ...	...	...	80.0	40.0	...	61.2	0.07	...	...	...	
Year Average	...	...	85.0	40.0	...	61.2	Total 57.85	...	...	...	

MOMBASA.

MONTH.	TEMPERATURE.						RAINFALL.		WINDS.		Remarks.
	Solar Maximum.	Minimum on grass.	Shade Maximum.	Shade Minimum.	Range.	Max. and Min. Mean combined.	Amount in inches.	Degree of Humidity.	General Direction.	Average Force.	
January ...	...	...	86.0	70.0	...	79.1	2.33	...	...	...	
February ...	...	...	86.0	72.0	...	78.7	2.26	...	...	...	
March ...	...	...	88.0	73.0	...	80.8	2.45	...	...	...	
April ...	...	...	84.0	70.0	...	77.7	17.14	...	...	...	
May ...	...	...	84.0	69.0	...	76.9	7.97	...	...	...	
June ...	...	...	82.0	68.0	...	75.1	2.05	...	...	...	
July ...	...	...	82.0	66.0	...	75.1	1.87	...	...	...	
August ...	...	...	81.0	66.0	...	74.4	2.03	...	...	...	
September ...	...	...	83.0	68.0	...	75.7	0.96	...	...	...	
October ...	...	...	83.0	69.0	...	77.0	0.51	...	...	...	
November ...	...	...	85.0	72.0	...	78.5	0.45	...	...	...	
December ...	...	...	87.0	73.0	...	79.0	0.81	...	...	...	
Year Average	...	...	83.0	66.0	...	74.0	Total 40.83	...	...	...	

TABLE V.—*continued.*METEOROLOGICAL RETURN FOR THE YEAR 1917—*continued.*

KISUMU.

MONTH.	TEMPERATURE.						RAINFALL.		WINDS.		Remarks.
	Solar Maximum.	Minimum on grass.	Shade Maximum.	Shade Minimum.	Range.	Max. and Min. Mean combined.	Amount in inches.	Degree of Humidity.	General Direction.	Average Force.	
January ...	...	...	90.0	63.0	...	75.0	4.82	...	...	...	
February ...	...	...	85.0	62.0	...	72.9	5.20	...	...	...	
March ...	...	...	91.0	62.0	...	74.8	1.81	...	...	...	
April...	...	...	98.0	63.0	...	73.4	8.20	...	...	...	
May ...	...	...	85.0	62.0	...	72.5	6.39	...	...	...	
June ...	...	...	82.0	63.0	...	71.5	6.93	...	...	...	
July ...	...	...	83.0	61.0	...	71.4	0.78	...	...	...	
August ...	...	...	83.0	61.0	...	71.4	6.62	...	...	...	
September ...	...	...	85.0	61.0	...	71.6	2.77	...	...	...	
October ...	...	...	84.0	61.0	...	71.7	2.30	...	...	...	
November ...	...	...	91.0	62.0	...	74.3	0.49	...	...	...	
December ...	...	...	86.0	62.0	...	74.0	0.09	...	...	...	
Year Average	...	...	98.0	61.0	...	72.9	Total 46.40	...	...	...	

FORT HALL.

MONTH.	TEMPERATURE.						RAINFALL.		WINDS.		Remarks.
	Solar Maximum.	Minimum on grass.	Shade Maximum.	Shade Minimum.	Range.	Max. and Min. Mean combined.	Amount in inches.	Degree of Humidity.	General Direction.	Average Force.	
January ...	...	...	80.0	52.0	...	67.7	6.01	...	...	...	
February ...	...	...	82.0	54.0	...	69.2	5.14	...	...	...	
March ...	...	...	85.0	55.0	...	69.7	3.87	...	...	...	
April...	...	...	78.0	56.0	...	68.0	22.67	...	...	...	
May ...	...	...	79.0	57.0	...	67.7	5.91	...	...	...	
June ...	...	...	78.0	54.0	...	65.5	4.45	...	...	...	
July ...	...	...	79.0	56.0	...	65.3	0.64	...	...	...	
August ...	...	...	78.0	52.0	...	64.4	1.52	...	...	...	
September ...	...	...	83.0	55.0	...	67.4	0.23	...	...	...	
October ...	...	...	82.0	58.0	...	68.8	4.84	...	...	...	
November ...	...	...	81.0	54.0	...	67.3	3.90	...	...	...	
December ...	...	...	83.0	54.0	...	69.0	0.00	...	...	...	
Year Average	...	...	85.0	52.0	...	67.5	Total. 59.18	...	...	...	

TABLE VI.

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1917.

DISEASES.	EUROPEAN OFFICIALS.				NATIVE OFFICIALS.				GENERAL EUROPEAN POPULATION.				GENERAL NATIVE POPULATION.							
	Remaining in Hospital at end of 1916.	YEARLY TOTAL.		Remaining in Hospital at end of 1917.	Remaining in Hospital at end of 1916.	YEARLY TOTAL.		Remaining in Hospital at end of 1917.	Remaining in Hospital at end of 1916.	YEARLY TOTAL.		Remaining in Hospital at end of 1917.	Remaining in Hospital at end of 1916.	YEARLY TOTAL.		Remaining in Hospital at end of 1917.				
		Admissions.	Deaths.			Admissions.	Deaths.			Admissions.	Deaths.			Admissions.	Deaths.					
INFECTIVE DISEASES:—																				
Beri-beri ...	...	...	...	...	...	2	...	2	1	...	...	...	12	84	19	96	1			
Cerebro-spinal fever ...	...	...	...	...	...	...	...	...	...	...	...	...	1	429	294	430	3			
Chicken-pox ...	...	3	...	3	...	8	...	8	...	...	18	...	18	1	701	3	702	39		
Cholera ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...			
Dengue ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...			
Diphtheria ...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...			
Dysentery ...	1	16	...	17	1	2	151	...	153	...	14	...	14	17	1069	160	1086	123		
Endocarditis—Infective...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...			
Enteric ...	...	1	...	1	...	2	...	2	...	1	2	...	3	...	2	...	2	1		
Erysipelas ...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...			
Gonorrhœa...	...	...	...	...	...	7	...	7	...	...	...	...	7	139	1	146	11			
Influenza ...	...	25	...	25	...	3	...	3	...	...	8	...	8	...	8	...	...			
Kala Azar ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...			
Leprosy (a) Nodular ...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	19	3	20	13		
(b) Anæsthetic ...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	1	...	3	...		
Malaria (a) Tertian ...	1	70	...	71	14	889	...	903	7	...	45	1	45	...	45	1719	21	1764	15	
(b) Quartan ...	...	8	...	8	...	66	...	66	...	...	1	...	1	...	280	...	280	5		
(c) Estivo-autumnal ...	...	65	...	65	1	3	383	...	386	1	...	33	2	33	...	10	1157	11	1167	22
(d) Chronic malaria ...	...	1	...	1	...	...	...	...	...	...	2	...	2	2	2	242	3	244	3	
(e) Blackwater ...	...	1	...	1	...	6	1	6	...	...	1	...	1	...	9	4	9	1	1	
Measles ...	...	3	...	3	...	3	...	3	...	...	1	...	1	...	55	1	60	1	...	
Malta fever ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Plague ...	...	...	...	...	...	...	...	...	...	...	5	4	5	1	8	160	112	168	2	
Pneumonia ...	...	2	1	2	...	14	2	14	1	1	1	...	2	...	20	575	189	595	23	
Rabies ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Relapsing fever ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12	2	12	...	...	
Rheumatic fever ...	...	3	...	3	1	...	71	...	71	...	3	1	3	...	4	107	1	111	5	
Septicæmia ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8	8	8	...	...	
Trypanosomiasis (Sleeping sickness) ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Small-pox ...	...	...	...	...	...	...	...	...	...	...	...	...	...	41	136	41	177	12	...	
Syphilis (a) Primary ...	...	...	...	...	...	1	...	1	...	...	...	...	...	3	81	...	84	10	...	
(b) Secondary ...	...	...	...	...	...	2	...	2	...	...	...	...	...	3	50	2	53	3	...	
(c) Inherited ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	4	...	...	
Tetanus ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	3	5	...	...	
Tuberculosis ...	...	1	...	1	...	3	...	3	...	...	3	...	3	...	1	70	31	71	3	
Whooping cough ...	...	...	...	...	...	...	...	...	...	...	5	...	5	...	3	27	...	30	1	
Yaws ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Yellow fever ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Mumps ...	...	...	...	...	...	4	...	4	...	...	...	...	...	...	123	...	123	9	...	
Anthrax ...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	27	1	27	...	...	
Other Infective Diseases	...	2	...	2	...	2	...	2	...	...	2	1	2	...	1	48	...	49	1	
INTOXICATIONS:—																				
Alcoholism ...	...	3	...	3	...	...	...	...	...	...	2	...	2	...	...	...	...	...	...	
Morphinism ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Others ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	
GENERAL DISEASES:—																				
Anæmia ...	...	...	...	...	...	5	...	5	...	...	...	...	...	7	205	4	212	5	...	
Anæmia—Pernicious ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	2	...	...	
Diabetes ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Exophthalmic goitre ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Gout ...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	1	...	1	...	...	
Leucocythæmia ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Hodgkin's disease ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Myxœdema ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Purpura ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Rickets ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Scurvy ...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	4	1	6	...	...	
Other General Diseases	1	18	...	19	...	10	...	10	...	...	2	...	2	...	1	81	9	82	...	
LOCAL DISEASES:—																				
Diseases of the Nervous System:—																				
Sub-section 1.																				
Neuritis ...	...	1	...	1	...	...	...	...	...	...	1	...	1	...	1	...	1	...	...	
Meningitis ...	...	...	...	...	...	...	...	...	...	...	1	1	1	...	4	4	4	...	...	
Myelitis ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	1	2	...	...	
Hydrocephalus ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Encephalitis ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1	...	...	
Abscess of brain ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Congestion of brain ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Other Diseases	...	1	...	1	...	3	...	3	1	...	...	...	...	...	4	1	4	1	...	
Sub-section 2.																				
Apoplexy ...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	4	3	6	...	...	
Paralysis ...	...	1	...	1	...	...	...	...	...	...	1	...	1	...	8	4	8	...	...	
Chorea ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Epilepsy ...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	8	1	9	...	...	
Neuraigia ...	...	6	...	6	...	28	...	28	...	...	2	...	2	...	57	...	57	...	...	
Hysteria ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12	...	12	...	...	
Other Nervous Diseases	...	3	...	3	...	5	...	5	...	...	5	...	5	1	1	28	4	29	1	
Sub-section 3.																				
Mental Diseases—																				
Idiocy ...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	2	...	2	...	...	
Mania ...	...	...	...	...	...	...	...	...	...	2	2	...	4	3	27	41	14	68	38	
Melancholia ...	...	...	...	...	...	1	...	1	...	1	...	...	1	...	2	6	...	8	5	
Dementia ...	...	...	...	...	...	...	...	...	...	...	...	...	...	12	6	3	18	9	...	
Delusional insanity ...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	10	...	12	5	...	
Other Mental Diseases	...	...	...	...	...	...	...	...	...	1	3	...	4	1	...	27	2	27	1	

TABLE VI.—RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1917—(contd.)

DISEASES.	EUROPEAN OFFICIALS.				NATIVE OFFICIALS.				GENERAL EUROPEAN POPULATION.				GENERAL NATIVE POPULATION.						
	Remaining in Hospital at end of 1916.	YEARLY TOTAL.		Total cases treated.	Remaining in Hospital at end of 1917.	Remaining in Hospital at end of 1916.	YEARLY TOTAL.		Total cases treated.	Remaining in Hospital at end of 1917.	Remaining in Hospital at end of 1916.	YEARLY TOTAL.		Total cases treated.	Remaining in Hospital at end of 1917.				
		Admissions.	Deaths.				Admissions.	Deaths.				Admissions.	Deaths.						
LOCAL DISEASES—continued:—																			
Diseases of the Eye:—																			
Conjunctivitis ...		3		3		1	50		51	1				4	115		119	3	
Keratitis ...							2		2	1				1	10		11	1	
Ulceration of cornea ...							6		6	1		1		1	19		20		
Iritis ...							4		4						6		6		
Optic neuritis ...		2		2											3		3		
Cataract...							1		1			1			2		2		
Other Eye Diseases ...		4		4	1		28		28						27		27	1	
Diseases of the Ear:—																			
Inflammation ...							4		4						33	1	33	1	
Other Diseases ...							6		6			1			12		12	1	
Diseases of the Nose																			
		9		9		1	85		86			8			82		83		
Diseases of the Circulatory System:—																			
Pericarditis ...															1	1	1		
Endocarditis ...																			
Valvular, Mitral ...		1	1	1			1		1			1	1	1	2	34	1	36	
„ Aortic ...		1	1	1											1		1		
„ Tricuspid ...							1		1										
„ Pulmonary ...																			
Arterial sclerosis ...																			
Aneurism ...															2		2		
Other Diseases ...		2		2	1		6		6			2	1	2	1	8		9	
Diseases of the Respiratory System:—																			
Laryngitis ...						1	1		2						3		3		
Bronchitis ...		27		27		5	456		461	3		11		11	9	679	20	688	15
Broncho-pneumonia ...		1		1			15		15						4	164	28	168	4
Abscess of lung ...																			
Gangrene of lung ...																			
Emphysema ...							1		1		1		1		1	1	1		
Pleurisy ...		4		4	1		9		9			1		1	1	68	3	69	
Empyema ...															1		1		
Other Diseases...	2	5		7		1	60		61	1	1	5		6	1	47	2	48	1
Diseases of the Digestive System:—																			
Stomatitis ...							7		7						6		6		
Caries of teeth...		1		1			30		30	1		2		2		17		17	
Glossitis ...																			
Sore throat ...		3		3			9		9			1		1		22		22	
Inflammation of tonsils ...		19		19		1	16		17			4		4	1	25		26	1
Gastritis ...	1	8		9			22		22	1		6		6		22	1	22	
Ulceration of stomach ...												2		2	1				
Hæmatemesis ...																			
Dilatation of stomach ...																			
Stricture of stomach ...																			
Dyspepsia ...		5		5			26		26			1		1		37		37	
Enteritis ...		5		5			1		1						1	16	2	17	
Appendicitis ...	1	1		2			4		4			9		9	1	6	1	6	
Colitis ...							1		1						3		3		
Ulceration of intestines ...																			
Sprue ...																			
Hernia ...											1	2		3	2	29	1	31	3
Diarrhœa ...		9		9			62		62			5		5	10	473	18	483	5
Constipation ...		3		3			24		24			3		3		83		83	
Colic ...							48		48						121		121		
Hæmorrhoids ...		3		3		1	28		29			6		6		19		19	1
Pancreatitis ...																			
Hepatitis (Acute) ...		3		3			1		1			2		2		6		6	
Abscess ...												1		1		2		2	
Cirrhosis ...															8	6	8	1	
Jaundice ...												1		1		9	1	9	
Peritonitis ...															1	1	1		
Ascites ...												1	1	1		7	2	7	
Other Diseases		4		4			33		33			4		4		61	4	61	3
Diseases of the Lymphatic System:—																			
Splenitis ...						1	21		22	1					1	48		49	2
Inflammation of lymphatic gland ...		3		3			9		9			3		3	2	75		77	3
Suppuration of lymphatic gland ...		1		1												20		20	2
Lymphangitis ...																2		2	
Elephantiasis ...															1	2		3	
Other Diseases												1		1					
Diseases of the Urinary System:—																			
Acute nephritis ...							1		1						1	2	2	3	
Bright's disease ...																4	3	4	
Pyelitis ...												1		1					
Calculus ...																			
Renal colic ...							3		3										
Cystitis ...							1		1							2	1	2	
Vesical calculus ...																			
Suppression ...																			
Hæmaturia ...																1		1	
Chyluria ...																			
Other Diseases...		3		3			1		1							4	1	4	

TABLE VI.—RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1917—(*contd.*)

DISEASES.	EUROPEAN OFFICIALS.				NATIVE OFFICIALS.				GENERAL EUROPEAN POPULATION.				GENERAL NATIVE POPULATION.							
	Remaining in Hospital at end of 1916.	YEARLY TOTAL.		Total cases treated.	Remaining in Hospital at end of 1917.	Remaining in Hospital at end of 1916.	YEARLY TOTAL.		Total cases treated.	Remaining in Hospital at end of 1917.	Remaining in Hospital at end of 1916.	YEARLY TOTAL.		Total cases treated.	Remaining in Hospital at end of 1917.					
		Admissions.	Deaths.				Admissions.	Deaths.				Admissions.	Deaths.							
LOCAL DISEASES—continued—																				
Diseases of the Generative System :—																				
Male Organs :—																				
Urethritis	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...					
Gleet	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...					
Stricture	...	1	...	1	...	2	...	2	...	2	...	2	...	4	...					
Prostatitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
Soft chancre	...	...	...	...	...	...	...	...	...	...	...	...	...	21	...					
Condyloma	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...					
Inflammation of scrotum	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...					
Hydrocele	...	...	...	...	...	2	...	2	...	...	1	...	7	8	1					
Orchitis	...	...	...	...	...	6	...	6	...	...	1	...	57	58	1					
Epididymitis... ..	1	...	1	...	...	...	...	...	...	...	2	...	2	2	...					
Abscess of testicle	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
Other Diseases	...	2	...	2	...	2	...	2	...	2	...	2	...	25	25					
Female Organs :—																				
Ovaritis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
Ovarian cyst	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
Endometritis	...	...	...	...	...	...	...	...	...	5	...	5	...	...	...					
Displacement of uterus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
Vaginitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
Amenorrhœa	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
Dysmenorrhœa	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
Menorrhagia	...	...	...	...	...	...	...	...	...	3	...	3	1	...	...					
Leucorrhœa	...	...	...	...	...	...	...	...	...	...	...	...	2	...	2					
Abortion	...	...	...	...	...	...	...	...	...	2	...	2	...	2	1					
Delayed labour	...	...	...	...	...	...	...	...	...	...	...	...	2	2	2					
Post-partum hæmorrhage	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...					
Retained placenta	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1					
Premature birth	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1					
Puerperal septicæmia	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1					
Mastitis	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...					
Abscess of breast	...	...	...	...	...	...	...	...	...	2	...	2	...	1	1					
Other Diseases	...	...	...	...	...	...	...	...	...	2	...	2	...	11	11					
Diseases of the Organs of Locomotion :—																				
Osteitis	...	...	...	...	...	1	...	1	...	2	...	2	...	13	13					
Arthritis	2	...	2	...	...	4	...	4	...	1	...	1	...	33	33					
Spondylitis	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...					
Bursitis	...	...	...	...	...	2	...	2	...	...	...	...	...	...	...					
Other Diseases	...	12	...	12	1	2	121	...	123	1	...	2	...	153	154					
Diseases of the Connective Tissue :—																				
Cellulitis	...	4	...	4	...	13	...	13	...	2	...	2	...	9	150					
Abscess	...	2	...	2	1	...	31	...	31	2	...	7	...	7	183					
Elephantiasis	...	...	...	...	...	...	...	...	...	...	...	...	...	7	...					
Other Diseases	...	1	...	1	...	1	...	1	...	4	...	4	...	30	...					
Diseases of the Skin :—																				
Urticaria	...	1	...	1	...	9	...	9	...	...	...	...	...	3	...					
Eczema	...	3	...	3	1	...	...	...	...	...	...	...	...	24	...					
Boil	...	1	...	1	...	17	...	17	...	1	...	1	...	63	...					
Carbuncle	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
Herpes	...	...	...	...	...	...	...	...	...	...	...	...	...	8	...					
Psoriasis... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...					
Oriental sore	...	...	...	...	...	...	...	...	...	...	...	...	12	19	...					
Tinea	...	1	...	1	...	2	...	2	...	...	...	...	...	1	...					
Scabies	...	...	...	...	...	27	...	27	...	...	...	...	...	35	...					
Acne	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...					
Prickly heat	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...					
Other Diseases	...	2	...	2	...	14	...	14	...	1	...	1	...	10	315					
Injuries—General																				
Local	...	24	...	24	...	4	302	...	306	2	...	26	...	26	1					
Gun-shot Wounds	...	...	...	...	...	...	...	...	...	...	...	...	...	1	19					
Surgical Operations	...	8	...	8	...	...	3	...	3	...	...	...	...	1	124					
Tumours	...	...	...	...	...	1	...	1	...	5	1	5	...	12	...					
Malformations	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
Poisons	...	...	...	...	...	2	...	2	...	...	...	...	...	14	...					
Parasites—Animal																				
Protozoa... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
Trematoda (Flukes)	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...					
Cestoda—																				
Tænia solium	...	...	...	...	...	...	...	...	...	1	...	1	...	18	...					
Tænia saginata... ..	...	...	...	...	...	...	...	...	...	1	...	1	...	5	...					
Nematoda—																				
Ascaris	...	...	...	...	...	1	...	1	...	1	...	1	...	14	...					
Tricocephalus dispar	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
Trichina	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
Dracunculus	...	...	...	...	...	2	...	2	...	...	...	...	...	...	...					
Filariasis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
Strongylus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
Ankylostomiasis	...	...	...	...	...	...	...	...	...	...	...	...	3	55	15					
Oxyuris	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...					
Insecta—																				
Myiasis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
Other Diseases	...	...	...	...	...	...	...	...	...	...	...	...	5	24	...					
TOTAL	10	418	3	428	9	37	3317	3	3354	26	9	326	15	335	13	374	12825	1121	13199	542

TABLE VII.
RETURN OF DISEASES (OUT-PATIENTS) FOR THE YEAR 1917.

DISEASES.	EUROPEAN OFFICIALS.		NATIVE OFFICIALS (including Asiatics).		GENERAL EUROPEAN POPULATION (NON-OFFICIALS).		GENERAL NATIVE POPULATION.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Infective Diseases :—								
Beri-beri	...	...	...	...	...	...	...	...
Cerebro-spinal fever	...	...	...	...	...	...	17	1
Chicken-pox	...	...	...	...	...	...	322	2
Cholera	...	...	...	...	...	...	...	...
Dengue	...	...	...	...	...	...	...	...
Diphtheria	...	...	...	...	...	...	...	...
Dysentery	16	2	11	...	27	9	1,186	112
Endocarditis—Infective	...	...	...	...	...	...	...	...
Enteric fever	...	...	...	...	...	...	...	1
Erysipelas	1	...	...	...	3	1	4	1
Gonorrhœa	2	...	7	...	17	...	755	4
Influenza	1	1	7	...	3	1	145	7
Kala Azar	...	...	...	...	...	...	...	...
Leprosy (a) Nodular	...	...	...	...	...	...	4	...
(b) Anæsthetic	...	...	...	...	...	...	1	...
Malaria (a) Tertian	34	...	151	...	73	32	7,700	497
(b) Quartan	11	...	...	...	...	...	300	5
(c) Æstivo-autumnal	12	2	136	...	26	13	2,898	816
(d) Chronic malaria	3	...	...	...	2	2	282	12
(e) Blackwater	...	...	...	...	1	...	...	...
Measles	...	...	...	...	1	2	27	...
Malta fever	...	...	...	...	...	...	...	...
Plague	...	...	...	...	...	...	36	1
Pneumonia	...	...	...	...	1	...	107	13
Rabies	...	...	...	...	...	...	...	...
Relapsing fever	...	...	...	...	...	...	...	...
Rheumatic fever	2	...	16	...	8	3	824	102
Septicæmia	...	...	...	...	...	...	1	1
Trypanosomiasis (Sleeping Sickness)	...	...	...	...	...	...	...	...
Small-pox	...	...	...	...	...	...	29	...
Syphilis (a) Primary	...	...	1	...	4	1	226	17
(b) Secondary	1	...	...	...	1	...	335	73
(c) Inherited	...	...	...	...	...	...	18	7
Tetanus	...	...	...	...	...	...	...	1
Tuberculosis	...	...	2	...	...	1	42	17
Whooping cough	...	...	...	...	4	3	8	13
Yaws	...	...	...	...	...	...	238	79
Yellow fever	...	...	...	...	...	...	...	...
Mumps	...	...	1	...	1	...	101	3
Anthrax... ..	...	...	...	...	...	...	14	...
Other Infectious Diseases	...	...	1	...	...	...	2	...
Intoxications :—								
Alcoholism	...	...	...	...	...	2	1	...
Morphinism	...	...	...	...	...	...	...	...
Others	...	...	...	...	...	...	...	...
General Diseases :—								
Anæmia... ..	3	2	10	...	7	22	442	35
Anæmia—Pernicious	...	...	...	...	...	...	6	...
Diabetes	...	...	...	...	...	...	1	...
Exophthalmic Goitre	...	...	...	...	...	...	...	...
Gout	...	...	2	...	...	...	7	1
Leucocythæmia	...	...	...	...	...	...	...	...
Hodgkin's Disease	...	...	...	...	...	...	...	...
Myxœdema	...	...	...	...	...	...	...	...
Purpura... ..	...	...	...	...	...	...	...	...
Rickets	...	...	...	...	...	...	...	...
Scurvy	...	...	...	...	...	...	16	6
Other General Diseases	8	2	10	...	26	16	169	10
Local Diseases :—								
Diseases of the Nervous System	25	5	69	...	48	36	2,835	142
Mental Diseases	...	...	...	...	...	...	5	3
Diseases of the Eye	2	...	40	...	18	14	1,989	443
" " Ear	12	1	38	...	22	7	1,131	176
" " Nose	10	...	98	...	13	2	892	66
" " Circulatory System	1	...	4	...	4	4	72	5
" " Respiratory System	42	1	212	...	66	40	12,125	912
" " Digestive System	121	6	405	...	190	118	14,629	1,834
" " Lymphatic System	1	...	10	...	3	2	823	75
" " Urinary System	1	...	2	...	9	4	58	11
" " Generative System	6	1	6	...	8	43	425	146
" " Organs of Locomotion	8	...	52	...	10	4	3,142	119
" " Connective Tissue	8	...	12	...	21	6	1,308	104
" " Skin	33	4	111	...	64	31	6,443	832
Injuries :—								
General	...	...	...	...	1	1	69	51
Local	40	...	118	...	51	14	19,615	1,542
Gun-shot wounds	...	...	...	...	...	...	7	1
Surgical Operations	1*	...	3*	...	4*	...	198*	27*
Tumours	...	...	...	...	...	...	13	5
Malformations	...	...	...	...	...	...	...	...
Poisons	1	...	...	...	...	2	31	3
Parasites—Animal	6	...	16	...	7	2	1,359	829
TOTAL	411	27	1,548	...	740	438	83,240	9,136

* Recorded under respective Diseases.

TABLE VIII.

EUROPEANS.

RETURN OF INFECTIVE DISEASES TREATED AT THE VARIOUS HOSPITALS AND DISPENSARIES IN THE PROTECTORATE DURING 1917.

DISEASES.	Mombasa.	Malindi.	Lamu.	Kakoneni.	Nairobi.	Machakos.	Makindu.	Kyambu.	Naiyasha.	Eldoret.	Eldama Ravine.	Nakuru.	Kacheliba	Northern Turkana.	Kisumu.	Mumias.	Nandi.	Kericho.	Kismayu.	Gobwen.	Mfudu.	Moyale.	Fort Hall.	Embu	Meru.	Nyeri.	Kitui.	Total.
Anthrax ...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Chicken-pox ...	...	...	...	...	3	...	...	1	...	14	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	21
Dysentery ...	37	...	...	...	12	...	...	...	3	8	...	11	2	2	3	...	...	...	1	...	...	2	...	...	...	2	...	84
Enteric Fever ...	1	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3
Malaria ...	92	3	1	5	81	7	...	3	4	76	2	33	3	18	42	2	3	...	7	17	6	13	1	6	2	5	...	435
Blackwater Fever ...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	3
Measles ...	...	...	...	...	2	...	1	...	...	3	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7
Mumps ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1
Plague ...	...	...	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5
Tuberculosis ...	1	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	5

N B.—This Table only gives the numbers *actually* treated at Government Institutions.

TABLE VIII.

NATIVES (INCLUDING ASIATICS).

RETURN OF INFECTIVE DISEASES TREATED AT THE VARIOUS HOSPITALS AND DISPENSARIES IN THE PROTECTORATE DURING 1917.

DISEASES.		Mombasa.	Malindi.	Lamu.	Kakomoni.	Nairobi.	Machakos.	Makindu.	Kyambu.	Naivasha.	Eldoret.	Eldama Ravine.	Nakuru.	Kabarnet.	Kacheliba.	Northern Turkana.	Kisumu.	Mumias.	Nandi.	Kerioho.	Kisumu.	Gobwen.	Mfudu.	Sereni Special Prison.	Moyale.	Fort Hall.	Embu.	Meru.	Nyeri.	Kitui.	Total.		
Anthrax	...	{ Cases ... Deaths	...	...	...	37 1	...	...	...	...	...	...	...	1	...	...	...	2	...	...	1	...	...	...	...	...	...	...	...	...	41 1		
	...	{ Cases ... Deaths	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	42	3 2	37 17	...	...	...	...	...	...	...	84 19	
Beri-beri	...	{ Cases ... Deaths	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5 1	...	...	...	...	...	...	...	...	...	...	...
	...	{ Cases ... Deaths	...	...	...	283 188	7 ...	1 1	...	...	...	...	...	2 1	...	...	4 1	122 89	2 1	...	...	...	...	...	...	...	...	...	2 1	...	...	2 1	449 294
Cerebro-spinal meningitis	...	{ Cases ... Deaths	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	...	{ Cases ... Deaths	...	...	...	739 ...	1 ...	...	3	18	18	31	51	13	...	...	...	76 2	7 ...	...	6	...	...	...	...	...	12	...	...	...	20	2 1	1,033 3
Chicken-pox	...	{ Cases ... Deaths	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	...	{ Cases ... Deaths	...	...	...	683 35	112 7	147 24	16 1	102	46 1	7 1	173 14	...	...	49 6	31 8	304 29	22 ...	36 ...	23 3	123 4	128 1	43 ...	37 ...	5 ...	36 11	10 1	79 1	37 2	16 ...	2,529 160	
Dysentery	...	{ Cases ... Deaths	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	...	{ Cases ... Deaths	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric fever	...	{ Cases ... Deaths	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	...	{ Cases ... Deaths	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Leprosy	...	{ Cases ... Deaths	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	...	{ Cases ... Deaths	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Malaria	...	{ Cases ... Deaths	...	...	...	2,445 8	414 ...	395 ...	52 2	88	76	62	491 1	121 ...	374 1	528 ...	2,160 1	272 ...	177 ...	314 1	1,148 2	743 2	346 ...	41 ...	175 ...	468 3	237 1	350 2	204 2	1,205 1	17,533 35		
	...	{ Cases ... Deaths	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Blackwater fever	...	{ Cases ... Deaths	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	...	{ Cases ... Deaths	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles	...	{ Cases ... Deaths	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	...	{ Cases ... Deaths	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Mumps	...	{ Cases ... Deaths	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	...	{ Cases ... Deaths	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Plague	...	{ Cases ... Deaths	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	...	{ Cases ... Deaths	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Small-pox	...	{ Cases ... Deaths	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	...	{ Cases ... Deaths	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tuberculosis	...	{ Cases ... Deaths	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	...	{ Cases ... Deaths	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Yaws	...	{ Cases ... Deaths	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	...	{ Cases ... Deaths	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

N.B.—This Table only gives the numbers *actually* treated at Government Institutions.

APPENDIX I.

Chart showing incidence of rainfall and malaria as noted at the Native Civil Hospital, Nairobi in 1917.



